

Clinical Focus

Toward Neurodiversity: How Conversation Analysis Can Contribute to a New Approach to Social Communication Assessment

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ABSTRACT

Purpose: The purpose of this clinical focus article was to illustrate the potential of employing conversation analysis (CA) as a method for assessing social communication that is neurodiversity affirming.

Method: This clinical focus article will provide an overview of CA and explain how it offers a theoretically grounded means of analyzing autistic children's everyday social interactions. Our aim is not simply to add a new assessment instrument to the disciplinary toolbox but to use the occasion to spur a reconsideration of how social communicative competence is currently conceptualized in the field and how those assumptions are reified through assessment practices. We will present a case illustration of a bilingual autistic child and his family. We will discuss the implications of a CA-informed assessment for reconceptualizing autistic social communicative competence.

Results: The case study illustrates the contributions of CA for (a) shifting the focus of assessment from social communication as an individual skill to social communication as an interactional achievement and (b) surfacing social communicative competencies that may be dismissed as pathologies.

Conclusions: CA offers a relational understanding of autistic communication and sociality that is compatible with a critical stance on disability. Insights from CA problematize deeply entrenched notions of autism and social communication in speech-language pathology.

In this clinical focus article, we aim to introduce the principles and methods of conversation analysis (CA) and illustrate how they can contribute to a neurodiversity-affirming approach to the assessment of autistic sociality in the field of speech-language pathology (SLP). In doing so, our goal is not simply to add a new tool to the disciplinary assessment apparatus but to spur a reconsideration of how social communicative competence is currently conceptualized in the field and how those assumptions are reified through assessment and other practices. In what follows, we identify and critically discuss traditional assumptions that constrain the field into practices that are

deficit oriented and decontextualized. We then present and petition for an approach informed by neurodiversity sensibility and aspirations, demonstrating how CA can serve as a powerful research and clinical tool to affirm this new approach within SLP.

Social communication is the primary area of focus for school-based speech-language pathologists working with autistic¹ students. According to the American Speech-Language-Hearing Association (ASHA, n.d.-a), "Regardless of the presence or absence of difficulties acquiring the form and content of language, all individuals with autism spectrum disorder are eligible for speech-language services due to the pervasive nature of the social communication

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¹We adopt the terms *autistic* and *disabled* consistent with the preferences of many disability and autistic advocates for identity-first language over person-first language (Brown, 2011).

impairment.” This statement foregrounds the importance of addressing the social communication needs of autistic students; however, it also betrays a deficit-focused approach to autism. Specifically, this statement attributes social communicative difficulties to autistic individuals and their presumed impairments, which ignores the fact that social communication breakdowns are, by definition, relational and cannot be ascribable to one person.

A perspective that centers the capacities of autistic individuals as well as the situated nature of any neurological condition has emerged in the past few decades, with neurodiversity advocates as most active champions. Neurodiversity advocates push back against the rhetoric that autistic people need fixing. The neurodiversity movement asserts that all forms of neurocognitive diversity are natural states of variation and are not inferior to supposed neurotypical states of being (Kapp, 2020; Milton et al., 2020; Singer, 2017). Foregrounding the priorities and perspectives of neurodivergent people (Hughes, 2016), the neurodiversity movement invites focusing on the contextual factors that accommodate neurocognitive differences rather than intervening on autism. A neurodiversity-affirming approach rejects the notion that successful social communication rests with the remediation of neurodivergent ways of socializing and communicating. It petitions, rather, for increasing understanding of diverse ways of expressing and relating, honoring and bridging differences, and making social participation more accessible.

The principles underlying the neurodiversity paradigm are actually consistent with those of the *biopsychosocial* framework already adopted in ASHA’s (n.d.-a) guidelines for clinical practice in autism—specifically, in the *International Classification of Functioning, Disability, and Health (ICF)*; World Health Organization, 2002). The ICF was a tool specifically created to facilitate a paradigm shift away from a purely impairment-focused, medical approach to disability and toward one that is more socially minded. The ICF acknowledges that individuals and their social and physical milieu are not separable but rather mutually constitute each other in complex ways. In this sense, the ICF conceives of disability as resulting from the ways individual and social elements are juxtaposed and interact. Autism is regarded as a disability and a difference, but disability is understood within both the ICF and the neurodiversity paradigm as a relational and contextualized phenomenon (Threats, 2010). The focus is turned from etiology to impact (den Houting, 2019; World Health Organization, 2001, 2002). Efforts to cure autism and mask autistic traits are opposed, but the use of medical intervention to treat co-occurring illnesses that affect quality of life (e.g., pain, seizures, depression, anxiety) and the use of educational intervention to build helpful skills and support the autonomy of autistic people (e.g., augmentative/alternative communication and sensory

regulation strategies) are promoted (Autistic Self Advocacy Network, 2022; Kapp, 2020; Kapp et al., 2013; Milton, 2012).

The neurodiversity paradigm and the ICF share several principles that are particularly relevant for social communication assessment in autism (Bölte et al., 2021). They share an understanding of disability as a multifactorial and multidimensional phenomenon that is not only biomedical but also sociocultural in nature. The impact of disability is understood as a function of how variations in neurobiological structures/functions interact with environmental barriers/affordances. Both stress the need to support participation in day-to-day life. These points of convergence between the neurodiversity paradigm and the ICF suggest that the aims of the neurodiversity movement are consistent with an established approach to health that is widely acknowledged as a framework for a holistic practice.

Unfortunately, many disability advocates and disability studies scholars consider the ICF a promising framework that remains yet unfulfilled (Shakespeare et al., 2017). Indeed, when we examine the practices related to the assessment of social communication within the SLP field, we find that we are still quite a long way from living up to the ideals of neurodiversity and a holistic approach to disability. Westby and Washington (2017) reported that impairment-based assessments reliant on standardized tests as well as norm-referenced rating scales, questionnaires, and observational tools remain the most common evaluation practices of school speech-language pathologists. They also found that most speech-language pathologists did not feel they had the knowledge or tools to assess or support students’ participation in naturally occurring activities.

Social communication assessments often neglect the cultural fabric of social interaction. Pragmatic taxonomies used across social communication assessment tools, such as speech acts, conversational maxims, and social reasoning are frequently presented as universal, when they are, in fact, highly culturally bound (Hyter, 2017; Wierzbicka, 2009). Many neurodivergent communication patterns (e.g., echolalia, aversion of eye gaze, and preference for sameness) have been found to be expressed differently across demographics and cultural contexts, yet due to the dearth of participants of different ethnic, racial, cultural, gender, and national backgrounds in autism research, the very traits of autism are defined largely by White, Western, male middle-class versions of neurotypicality (Freeth et al., 2013; Koh & Milne, 2012; Matson et al., 2011). Many pragmatic tests commonly used by speech-language pathologists are also designed only for speakers of Standardized American English (SAE; Lavi, 2019; Phelps-Terasaki & Phelps-Gunn, 2007). SAE serves as a monolingual normative reference against which other dialects or languages are deemed substandard and defective. These practices not only pathologize

autism but further marginalize autistic individuals who are racially, linguistically, and socioeconomically minoritized.

In this clinical focus article, we assert that a significant barrier to the achievement of neurodiversity-affirming practices in social communication assessment and intervention is the lack of theoretical and methodological grounding to allow practitioners to understand and to systematically investigate social communication as a complex phenomenon inseparable from the interactional contexts from which it emerges. These gaps in theory and methodology have a historical basis in the medicalization of communicators and the decontextualization of communication in SLP. We present CA for the potential it offers to addressing those gaps and providing a corrective to deficit views. After clarifying the distinctions between the medical, social, and the biopsychosocial models of disability and their influences on assessment approaches, we overview CA's theoretical underpinning and then articulate guidelines to apply CA methods for assessment. We will present a case illustration to highlight the potential of CA methods for (a) understanding autistic children's social communication competencies within an interactional framework and (b) guiding interventions that prioritize the removal of participatory barriers and promoting a goodness of fit over the remediation of skills.

Models of Disability and Influences on Assessment

The Medical Model

The neurodiversity approach is often described as paradigm shifting (Walker, 2012). The paradigm from which the shift is occurring is the *medical model*. The field of SLP is rooted in the medical model, which conceptualizes disability as a phenomenon that is physical, existing within the individual, objectively definable, and in need of remediation (Duchan, 2001, 2012; Eagle, 2014; Ferguson, 2009). In a medical schema, *impairment* represents a biologically based structural abnormality, whereas a *disorder* refers to an abnormality of function. The goal of the practitioner is to diagnose the causes of disorders and to apply treatments to remove those causes or lessen their effects. Duchan (2020) referred to this epistemological frame as *diagnosogenic thinking* and argued that it served as “a kind of genetic code” for the SLP field, underpinning both clinical and research practices.

As applied to communication, *diagnosogenic thinking* requires componentialization and localization because typology and classification are crucial for establishing the etiologies of different speech disorders (Duchan, 2020). The creation of diagnostic tests to identify communication disabilities and to define them against a constructed

normal was crucial to the process. Also relevant was the rendering sources of disorders within individual people and within certain modularized skills. Duchan argued that these ways of thinking found resonance with the discrete skills concept in behaviorism and later with the idea of cognitive modularism in psycholinguistics. The psycholinguistic paradigm became influential in SLP, solidifying the conceptualization of language and communication as internal, innate, and “in the head.”

The pragmatic revolution in the 1970s pushed the thinking on communication in the SLP field significantly and brought in a new focus on context. These expansions included looking beyond the individual child to studying language development within the influence of caregiver-child dyads, examining aspects of prelinguistic development including engagement and intentionality, and understanding children's capacity for knowing when to say what to whom (Gerber, 2003). Whereas an earlier semantic revolution expanded the focus of the field from *form* (the structure of language) to also include *content* (i.e., language meaning), the pragmatic revolution added an interest in *use* (i.e., the understanding and use of language in a social context).

Although the influences of the pragmatic revolution are firmly established in SLP today, the disciplinary approach to social communication is still strongly rooted in a cognitivist framework, which conceptualizes social communication primarily as an individual cognitive effort, albeit one that responds to and manifests in social contexts (Barnes & Bloch, 2019; Kasper, 2006). In ASHA (n.d.-b) Practice Portal, *social communication* is defined as encompassing social interaction (communication that occurs between at least two people), social cognition (an understanding of the mental and emotional states of self and others), pragmatics (communication that is focused on goal-consistent language use in social contexts), and language processing (expressive and receptive language). On first glance, the listing of *social interaction* as a component of social communication might suggest that the definition is interactionally focused, but the very act of conceptualizing social interaction as separate from the other individualistic aspects of social communication reveals a view of social communication and social action that centers individual intentions, goals, and psychological states (Perkins, 2008). This approach to social communication contrasts with interactionally focused approaches, like CA, which view social action as inextricably situated in interaction (Schegloff, 1995).

The cognitive, decontextualized view of social communication is reflected in the fact that there are very few social communication assessment methods in SLP that directly examine spontaneously occurring, copresent interactions in everyday environments (Barnes & Bloch, 2019; Westby & Washington, 2017). Overwhelmingly, speech-language pathologists use standardized pragmatic tests to

assess social communication, supplemented by observational checklists, caregiver questionnaires, and rating scales (Hyter, 2017; Izaryk et al., 2021). Standardized testing is, by definition, not naturally occurring. Barnes and Bloch (2019) argue that the other measures like questionnaires elicit reported and observed experiences of communication but do not offer analyses of actual communicative events as they unfold. Furthermore, they note that these measurement strategies render the highly complex phenomenon of interaction into discrete categories of behaviors, which misses the dynamic, multimodal, emergent, and interactional nature of real social encounters.

The Social Model

Whereas the medical model conceptualizes disability as a biophysical phenomenon that exists within the individual and that requires remediation, the *social model* of disability conceptualizes disability as contextually situated, rather than biologically given, and as a condition that lies at the intersection of individual and society. From this perspective, disability is not simply a matter of clinically labeled impairments and disorders but also a loss of rights as a consequence of those perceived deviations (Oliver, 2012). A social approach to disability, therefore, is first and foremost a sociopolitical one, with interventions aimed at dismantling attitudinal, environmental, institutional, and societal barriers that threaten participation, autonomy and quality of life (Baglieri & Lalvani, 2019; Tregaskis, 2004; Ware, 2004).

The autism rights movement, which evolved to become a cross-disability neurodiversity movement, draws on the social model approach in its refusal of a deficit perspective, its advocacy for community organization and autistic-led research, its engagement with policy development, and its protests against unethical practices (Kapp, 2020; Milton et al., 2020). Neurodiversity advocates acknowledge the transaction between impairments (deviations or loss in biophysiological structures and function) and disability (restrictions in ability to perform an activity due to external barriers) (den Houting, 2019; Kapp, 2020; Kapp et al., 2013). A socially minded understanding of disability does not deny the existence or relevance of biological impairments but focuses on increasing participatory access rather than individual remediation.

The Biopsychosocial Model

The neurodiversity paradigm is thus built on an integration of the social and medical models of disability, which is also a defining feature of the *biopsychosocial model* of disability adopted by the ICF. The strength of the biopsychosocial model lies in the consideration of how a person's experience of health, wellness, and quality of

life reflects the ongoing and dynamic interactions between these multiple dimensions within a sociocultural context. It does not assume that the diagnosis and its associated traits are an exhaustive explanation of the condition and directs our attention to the many other environmental variables we can contribute to the disability, acting as barriers to participation and threats to quality of life.

The ICF distinguishes between (a) the state of a person's bodily structures and functions, (2) the capacity to perform a discrete task/activity in a structured environment, and (c) participation in naturally occurring life events. All three elements are understood to be shaped by contextual influences, ranging from macrosystemic factors such as geopolitical stability and access to human rights to microsystemic variables such as family relationship and peer interactions. A traditional clinical assessment focuses on the first two aspects of the ICF—the state of an individual's body structures and functions and their capacity to execute tasks. A neurodiversity approach, by contrast, is most invested in facilitating life participation and modifying contextual variables to maximize accessibility.

The ICF is not typically used in public school settings, but Westby and Washington (2017) argue that it is compatible with educational guidelines and can propel improvement in students' participation in the academic and social activities that are authentic to school experiences. They observe, however, that most school-based SLP assessments are focused on the level of individual capacity. The ICF states that assessment of capacity is determined in a controlled environment. Speech-language pathologists are traditionally well trained to carry those out. Eligibility assessments for educational and health services also usually require standardized assessment data. Some information is usually gathered about body structures and functions, but since there are no agreed upon bioneurological measures of communication impairments, assessment focus defaults again to measurements of capacity.

Typical items on standardized assessments of social communication involve the child listening to verbal descriptions of and/or looking at pictures or videos depicting social scenarios. They are then presented with questions about the scenarios that require them to verbalize their pragmatic judgment, for example, "Did anything go wrong in the video?" or "What would you say in this situation and how?" (Lavi, 2019). For young children who are not yet using language, the assessment focuses on prelinguistic social behaviors such as joint attention and reciprocity (Wetherby & Prizant, 2002). Standardized social communication tests offer a means of comparing students' performance against a neuronormative sample, which is often information that school speech-language pathologists are expected to provide; however, given the previously mentioned ASHA guidelines that all individuals with autism spectrum disorder should be made eligible for speech-language services, assessments

normed around neurotypical social communicative behaviors may not be so helpful and may, instead, contribute to an impairment-focused understanding of the student. Standardized social communication tests present additional limitations such as lack of cultural and linguistic responsiveness.

In the realm of social communication assessment, the findings of Izaryk et al. (2021) showed that school speech-language pathologists did use more measures for assessing authentic participation. Specifically, parents/teacher-report measures (e.g., rating scale, checklists) and naturalistic observation were used just as frequently as the administration of standardized assessments. School speech-language pathologists also secondarily used language sampling analysis, which also involves the collection, transcription, and analysis of the structural components of elicited or naturally occurring conversations (e.g., sentence complexity, mean length of utterances, and lexical diversity). As noted by Barnes and Bloch (2019), however, there is an absence of methods for directly analyzing the features of social communication that are contextualized within naturally occurring, copresent interactions occurring in real time.

Overview of CA

In this section, we expound how *conversation analysis* (henceforth CA) can enrich speech-language pathologists' understanding and assessment of social communication. CA is predicated on a theory of language as social action and elects spontaneous talk-in-interaction as the most appropriate environment for investigating how communication works.

CA was developed by Harvey Sacks, Gail Jefferson, and Emanuel Schegloff (1964–1975; Sacks, 1992; Sacks et al., 1974; Schegloff, 1968) in the 1960s and emerged from the traditions of ethnomethodology (Garfinkel, 1967) and symbolic interactionism (Goffman, 1967). These two sociological trends focused on everyday interpersonal encounters, discerning participants' own (*ethno*) methods of production and interpretation of conversational turns, the fabric of mutual understanding and social order.

CA rests on the assumption that ordinary, everyday interactions are primordial to human sociality and the ideal context for discovering the competencies that people routinely employ to participate in social interactions. Conversation analysts typically collect audio or video recordings of social interactions within natural settings. This means attending to interactions that would have occurred irrespective of the involvement of the analyst, but it does not preclude from focusing on specialized types of interactions, such as doctor–patient, courtroom, or assessor–student encounters. This type of data differs from the information traditionally collected by speech-language pathologists for social communication/pragmatic assessments, which typically involves soliciting

communication from students via predefined script or gathering reported information about them via interviews or questionnaires (Hyter, 2017).

The Interactional Order of Social Encounters

A central premise in CA is that there is order in everyday interactions. The goal of CA is to describe the orderliness that is observably meaningful to the participants. In other words, analysts refrain from projecting their own assumptions about “social rules” and instead describe only what they observe participants to orient to, which may differ across contexts. In the practices of everyday life, people achieve intersubjectivity, or mutual understanding, by producing actions that display an understanding of one another's actions. By uttering an answer, for instance, a speaker displays their understanding of their interlocutor's prior turn as a question. Thus, the orderliness in interactions is coproduced *locally* by the interactants themselves within the context of the interaction (Liddicoat, 2011). A major implication of this is that the analyst/assessor's job is not to judge whether interactants are performing “appropriately or inappropriately” according to presupposed social rules. The analyst discerns the interactional logic of interaction, that is, how participants interpret one another's action, including those that are read as unexpected or inappropriate. For example, participants might indicate their confusion by asking, “What did you say?” which is an example of a conversational repair. Indeed, interactional breaches that propel repairs are fruitful sites wherein the expectations and interpretive methods of participants come to the surface and become more clearly accessible for analysis. What is of interest from a CA perspective is to describe the ways in which interactional misalignments come about, how they unfold turn-by-turn, and how they are taken up and responded to by the participants (Geoffrey et al., 2013).

Related to CA's descriptiveness is its commitment to specificity. CA adopts what is called a *specimen perspective*, which is very interested in understanding the moment, rather than extrapolating generalizations (ten Have, 2007). Any interaction can be worthy of study simply because it is an instance of how people interact and in each unique sequence of interaction conversation analysts can discern a locally normative orientation that guides participants' actions and informs the production and reproduction of social order. Any interaction, by virtue of it having occurred, can shed light on some aspect of interactional reality that is worthy of study in and of itself (Schegloff, 1993). The emphasis on specificity and the internal order of interaction is a strong contrast with most of the current methods of assessment, which are premised on comparing an individual's social communication performance against some set of general standards,

whether they be statistical norms, a developmental sequence, or ratings of perceived appropriateness along a scale. From a CA perspective, the value of a particular piece of data lies in what we can discover about its own internal workings, not how it stands in comparison to something else.

The commitment to understanding each moment for itself does not mean that CA findings are not useful for real world application. Applied CA methods have been used to help professional communicators (e.g., doctors, mediators) do their jobs more effectively (Stokoe, 2014). Speech-language therapists have also used applied CA to develop assessments and interventions in the areas of aphasia (Beeke et al., 2007; Whitworth et al., 1997), dementia (Plejert et al., 2017), and augmentative and alternative communication (Clarke & Bloch, 2013; Clarke et al., 2017). A common quality across speech-language therapy practices built around CA is their focus on relational dynamics rather than individual performance. Also, when conversational obstacles are observed in interactions, the solution is not necessarily to intervene on the person with the communication disability or to teach them more skills. For example, the *Better Conversations with Aphasia* intervention program works with dyads consisting of a person with aphasia and one of their familiar conversation partners (Best et al., 2016). The conversation partners are taught how to modify their responses to give their partners with aphasia a better chance at producing more complete and successful conversational turns.

Analysis of Sequence Organization

The conversation analytic focus on the sequential organization of conversation is one of the main features that makes it complementary to and also what sets it apart from a cognitively focused pragmatic analysis. CA posits that utterances cannot be fully apprehended in the abstract, if isolated from the context within which they have been produced. In fact, utterances come to perform the actions they enact not only by virtue of their *composition*, that is, their syntactic and prosodic makeup, but also by virtue of their *position* in a sequence of turns (Schegloff, 2007). Said in a slightly different way, conversational turns and actions are sequentially organized: A certain kind of first action creates the relevance for a certain kind of next action. Thus, the building blocks of interaction are not single utterances but minimally a couplet of turns, which in CA are termed *adjacency pairs*. In adjacency pairs, the production of a *first pair part* creates the relevance for the subsequent production of the complementary *second pair part*—a greeting creates the relevance for a greeting in return, a request creates the relevance of a response, and an invitation creates the relevance for an acceptance or declining (Schegloff, 2007).

The sequential organization of adjacency pairs (and larger sequences built around them) provides a mechanism through which mutual understanding is achieved and managed in interaction. The following is an example of an adjacency pair in a conversation:

1. Joy: Wanna get a bite?
2. Grace: Sure, why not.

The second pair part (Line 2) displays an understanding of the first pair part (Line 1) as a specific kind of action (an invitation) that solicits a specific kind of response (an acceptance or a decline), and the speaker who uttered the first pair part can inspect the response they obtain (i.e., the second pair part) to ascertain whether their (first) action was appropriately understood. Therefore, embedded in the sequential structure is a mechanism through which intersubjective understandings of social actions can be displayed, verified, and, where necessary, corrected (Schegloff, 2007).

The centrality of the sequential organization of actions in CA contrasts with and complements the pragmatic approach that informs social communication assessments, which takes utterances in isolation in order to classify them as speech acts according to a typology of social functions (Ninio et al., 1994; Searle, 1976). Drew (2018) argued that because speech act categories are predetermined, it limits our ability to see and describe the functions that people perform that are outside of those categories. Furthermore, because speech acts are assigned to individual utterances using the judgment of the assessor, it lacks the data-driven robustness of CA analyses. The attention to sequentiality brings a temporal context to the understanding of social communication that is often lacking in pragmatic assessments.

Another important implication of seeing interactions in sequential terms is that it brings nonspeech interactional contributions into the foreground. CA requires the transcription and analysis of all elements in a turn in an interaction that contribute to the overall interactional trajectory, whether those elements are speech, silence, eye gaze, a gesture, a laugh, or the use of objects. The transcription process can allow for a systematic analysis across languages of many elements and multiple modalities of social communication that are not traditionally considered by speech-language pathologists. This expansion would be very relevant for partnering with autistic students who cannot or prefer not to speak (Donaldson et al., 2021).

In summary, we can encapsulate the key benefits of CA for the study of social communication with autistic students in the following three points:

- CA removes the reliance on preconceived categories, which tend to get embedded in questionnaires,

interview protocols, and tests. For example, some assessment tools categorize children who use more language as more advanced communicators, which presumes the correlation between linguistic abilities with social communication skills. CA explicitly refrains from these types of assumptions and takes instead a stance of unmotivated looking, which may position analysts to stay open to the detection of new patterns even in seemingly routine interactional sequences.

- CA moves away from an analysis of individual speakers and their utterances and examines talk-in-interaction as interactional accomplishment. In this way, CA aligns with and supports a major goal of the neurodiversity movement, which is to move away from a view of autistic communication as unilaterally impaired and to better understand how misunderstandings come about and can be overcome.
- CA provides a window into how people act in real-life social situations. Most pragmatic assessments present students with scenarios to listen to/watch/read then answer questions about, which may tap into students' declarative (metapragmatic) knowledge about social communication but do not necessarily reveal much about their procedural competencies or how they take action in those scenarios in real time.

Contributions of CA to the Understanding of Autistic Social Communication

CA research has, in fact, contributed significantly to an expanded understanding of autism and autistic sociality. By giving detailed attention to what autistic children actually do in interaction, CA studies have challenged stereotypical characterizations of autistic communication (Sterponi et al., 2015). For example, difficulties with social reciprocity are an identified diagnostic criterion and a common target for intervention. What is rarely addressed, however, is a description of the ways in which difficulties in reciprocity arise in interaction and how they are responded to. Ochs and Solomon (2005) observed that when conversational topics were difficult to understand for the autistic children in their study, the children nevertheless remained engaged. They did so through the use of expressions that were connected to the unfolding conversation, though not in ways that were always treated as relevant by their interlocutors. It showed that rather than withdrawing from interactions, autistic children remained engaged by contributing “proximally relevant” utterances. In this way, CA demonstrates how difficulties in social reciprocity must be considered an interactional phenomenon.

CA studies have also offered a reframing and deeper understanding of echolalia, which is among the most recognizable and most pathologized traits of autistic communication

(Stiegler, 2015). Whereas previous research by Prizant and Duchan (1981) and Prizant and Rydell (1984) had shown through speech act analysis that many echolalic utterances by autistic children were functional, CA studies have found echolalia to constitute a range of actions within the turn-taking structure of conversations (Radford & Tarplee, 2000; Stribling et al., 2007). In a case study combining CA and acoustic analysis, Sterponi and Shankey (2014) offer further evidence of the orderliness and context sensitivity of echolalia. They showed that the child configured echolalic utterances in different ways for different interactional contexts. Within these contexts, the echoes not only were shaped by the context but also transformed the context.

CA methodology has also shed light on multilingual communication and autism. It is commonly debated whether autistic children should be exposed to more than one language and if doing so would impede their acquisition of language. Yu and Hsia (2019) found that heritage language maintenance among linguistically minoritized autistic children is significantly constrained by the pressures for the achievement of neuronormativity and by the lack of supports for addressing their intersectional needs. CA-informed investigations have shown that the autistic children display many competencies for orienting to ongoing interactions that occur multilingually (Bottema-Beutel et al., 2020; Klein, 2021; Yu, 2016a, 2016b). Researchers have found that in homes where parents have resolved to speak to their autistic children only in English, the children were nevertheless interactionally attuned to the multilingual talk surrounding them (Kremer-Sadlik, 2004; Yu, 2016a). These findings underscore the fact that multilingual practices are not optional add-ons to an imagined more basic monolingual state and that all children need to be supported to access the linguistic and cultural repertoires that allow them to participate fully in their families and communities.

Application of CA to Assessment: A Case Illustration

Although researchers using CA methods are making significant contributions to autism research, very few speech-language pathologists have been introduced to CA or have seen demonstrations of CA in clinical practice. In the following section, we will offer an illustration of a CA-informed approach for assessing autistic students' social communication. Although readers will likely learn some strategies that they can put to use, this clinical focus article is not meant to serve as a tutorial. Readers interested in learning how to do CA are referred to introductory texts on the topic by Liddicoat (2011) and ten Have (2007). For a practical guide on how to use CA for autism research and clinical practice, please see O'Reilly et al. (2017).

The Process of a CA-Informed Assessment

CA researcher and SLP professional, Dr. Tom Muskett (2017), offers the only currently available guide for speech-language therapists on using CA for autism-focused language and communication assessments. While acknowledging the practical constraints faced by most practicing clinicians, he lays out a rigorous six-step process for a CA-based assessment: (a) starts with identifying the phenomena of interest. These may be the areas of concern for which the student has been referred. For example, teachers and parents may have expressed concerns about the student not answering questions or disengaging in conversation. This approach eschews the CA precept of *unmotivated* looking, which we discussed previously in this article. Muskett argues that, from a clinical standpoint, if a phenomenon that has been perceived and reported as a problem is actually found not to be a problem for the participants, then that is, in fact, a very useful discovery.

The next steps of the assessment process include: (b) video record the subject interacting with others and (c) collect recordings in settings that offer the clinical information being sought in the assessment. For example, if the teacher reports that the student consistently disengages during certain classroom activities, then that classroom and those activities would be relevant contexts for data collection. (d) Watch the video several times and identify instances of the phenomena of interest. (e) Create transcriptions of instances of these phenomena, keeping in mind to capture the interactional sequences leading up to the target events as well as what follows. Select for transcription the instances that represent different facets of the phenomena. Relevance is more important than length, so the transcriptions may be brief and focused on interactional sequences of only a few minutes. (f) Examine the extracts turn-by-turn to identify emergent themes in (a) variations in the phenomena, (b) their sequential positioning, and (c) the roles of the coparticipants in the production of the phenomena (Muskett, 2017, p. 122–124)

Case Background

The case illustration features Ethan,² a 6-year-and-2-month-old child, who was referred for speech-language therapy at a university clinic. The videos were recorded during the early assessment phase of a 14-week clinic that included six home visits (two at the start of the semester,

two in the middle, and two at the end) and eight intervention sessions at a university partner site. During the pre-program interview, Ethan's mother expressed her wish for Ethan to participate in and contribute to conversations more often, for example, to answer questions more consistently or tell his family members about his day. She especially reported concern with Ethan's frequent reciting of dialogues from movies and his use of repetitive phrases in conversation. She stated that she wanted to see an increase in more spontaneous speech.

Ethan's parents were also asked to complete a questionnaire about his communication. Their responses indicated that they felt Ethan had difficulties initiating and ending conversations. Parents wrote that they usually provided him with verbal prompts to greet others and to initiate a conversation. Per parents' report, Ethan occasionally asked questions to initiate conversation such as, "What are you doing?" or "Where's the other one?" He also responded to yes/no and concrete "Wh" questions, such as, "What is your favorite movie?" Reportedly, he rarely used follow-up questions or comments to advance conversations.

Three languages are spoken in Ethan's family—Mandarin-Chinese, Cantonese-Chinese, and English. His mother, maternal grandmother and grandfather, and Ethan himself each speak the three languages to varying degrees of proficiency. His stepfather only speaks English comfortably but can understand some Mandarin and Cantonese. Ethan's mother is a bilingual teacher at a Chinese immersion school and had been strongly insistent on raising Ethan to speak their heritage languages until Ethan was diagnosed with autism at 3 and a half years of age. She recalled not being able to find any bilingual therapy programs or therapists for him and, as a result, decided to speak only English with him in an effort to speed up his English acquisition so he could access therapy services. She began reintroducing Chinese languages to Ethan when he was 5 years old following a surprising discovery: Because Mandarin had been identified as the primary language of their home, Ethan was required to undergo a Mandarin assessment for enrollment into kindergarten. Ethan's mother was surprised to learn how much Mandarin he still knew despite an 18-month hiatus. It was then that she became convinced he was capable of learning three languages.

Following the completion of the preliminary interview and questionnaire, the clinicians worked with the parents to identify at least five routine interactions that they could record at home as a part of the assessment process. The activities were chosen because they could show a variety of communicative performances, for example, across different activity types and with different participants. The parents were also asked to record interactions in which they felt Ethan communicated well and contexts they felt were challenging for him. The family was given a 2-hr recording capacity flip camcorder and a tripod to keep for a week and

²The data presented is part of a larger study approved by the San Francisco State University Institutional Review Board. All names and identifying information in the case illustration have been replaced with pseudonyms or anonymized. Parental approval was obtained for the presentation of the filtered images of the family in this clinical focus article.

was given instructions on their use, and they produced 2 hr worth of video recordings, including six different recorded events (dinner time with parents, dinner time with parents and grandparents, doing homework with mom, playing with parents, playing with grandparents, and playing with other children). Given Ethan’s mother’s concerns around Ethan’s use of repetitive and scripted language, there was a concerted analytic focus on this phenomenon. In the following sections, we will present and unpack three excerpts in which Ethan’s use of repetitive and scripted language was especially salient and played a notable role in the interactions.

“I’m Lord Shen.”

In Excerpt 1 below, Ethan is eating at the dinner table with his grandparents and parents. As illustrated in Figure 1, he is at the head of the table. His *Puo-Puo* (grandmother) is sitting to his immediate right and his *Gong-Gong* (grandfather) is next to her. His mother is sitting across from Puo-Puo on his immediate left and his father is next to her.

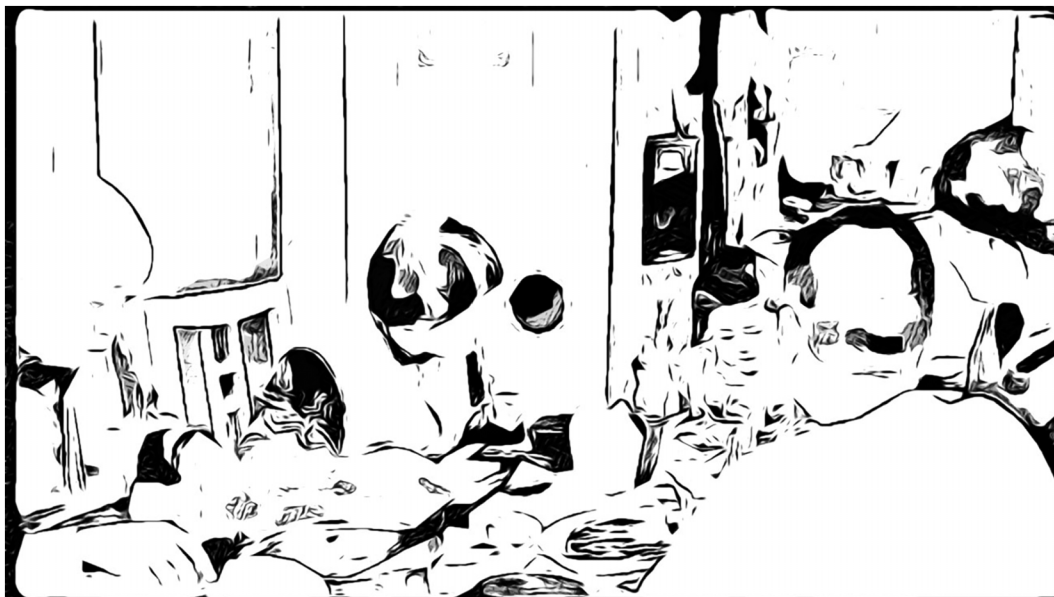
The languages used in this interaction are English and Mandarin–Chinese. This excerpt was selected for detailed analysis because it contained instances of Ethan using a script that was familiar to the parents. Specifically, it was the construction “I am/you are (a character, usually from a favorite movie, book or show),” identified by the parents as a frequent format in Ethan’s communicative repertoire. A key to the transcription notations can be found in the Appendix.

Excerpt 1.

	1.	Grandmother	今天 [的店裡你比較忙嗎? (Looking down at plate. Speaking to Ethan’s mother) <i>Was it busier for you at the store today?</i>
—>	2.	Ethan	[I’m Lord Shen. = (Looking at Mother. Touching hand to chest)
	3.	Mother	=Huh? (Looks at Ethan and leans closer)
	4.	Grandmother	Eh? (Drops fork, which clanks against the plate. Looks down. The other adults look over to her. Grandfather and Father reach for the fork)
—>	5.	Ethan	I’m Lord Shen = (Looking at Mother. Pat hand on chest)
	6.	Mother	=You’re Lord [Shen? (Looking at grandmother’s fork. [Reaches for the fork as grandmother recovers it, while Ethan’s gaze follows mother’s hand])
	7.	Grandmother	[今天 的店裡比較忙嗎? (Shift gaze from lap to plate. Cutting food. Ethan looking at grandmother) <i>Was it busier at the store today?</i>

In the excerpt above, the phenomenon of interest occurred twice, in Lines 2 and 5. The analytic interest, however, lies in their sequential positioning relative to what came before it and after. We see that Ethan’s turn in Line 2 was a “first move,” meaning that it was used to introduce something that was unrelated to the prior talk and that was meant to elicit a response (Stokoe, 2018).

Figure 1. A filtered, still image from a video recording corresponding to the interaction transcribed in Excerpt 1 showing Ethan eating at the dinner table with his grandparents and parents.



Ethan's opening move actually overlapped with his grandmother's own first move attempt (Line 1), which began just a beat before his. It was a question directed at Ethan's mother. The awkward timing aside, Ethan's attempt at initiation was effective. His utterance—which was a reference to a movie character, Lord Shen, a villainous peacock in *Kung Fu Panda*—was accompanied by eye gaze toward his mother and a gesture that served as additional nonverbal emphasis. In fact, despite competing with his grandmother for his mother's attention, he was the one to gain it successfully (Line 3). Our first analytic finding is already showing something quite interesting, which is that Ethan's use of a formulaic utterance served as an effective conversational initiation.

The sequence leading up to Ethan's repetition of "I am ___" in Line 5 was quite dramatic. Grandmother gained everyone's attention by dropping her fork. Amidst this chaos, Ethan recycled his initiation, "I am Lord Shen." Again, he succeeded in getting his mother's attention, though receiving only a minimal response (i.e., the modified repeat in Line 6). When Ethan's mother reached her hand toward Grandmother's fork, his gaze followed her hand, which shifted his focus to grandmother. This flow of events makes visible several competences and confirms Ethan's ability to make an initiating interactional move. It also shows his ability for making a conversational repair (his repeat in Line 5). Lastly, it reveals his ability to monitor changes in other people's attentional focus.

"I'm a Peacock"

Excerpt 2 picks up the interaction immediately downstream from Excerpt 1, as the line numbering indicates. We will continue to track the "I am (a character)"

Excerpt 2.

	9.	Ethan	(Looking at grandmother)
	10.	Ethan	Puo Puo! (Looking at grandmother's plate)
			<i>Grandmother!</i>
	11.	Grandmother	(.) [Hm? (Shifts gaze to Ethan)]
—>	12.	Ethan	[我是孔雀 (Looks at grandmother)] <i>I'm a peacock.</i>
	13.	Grandmother	你是孔雀啊? <i>You are a peacock?</i>
	14.	Ethan	(...)
	15.	Mother	孔雀怎麼叫? <i>What sound does a peacock make?</i>
	16.	Ethan	I don't know. = (Looks at mother)
	17.	Mother	=mm?
—>	18.	Ethan	(Pats chest) Me too.=
	19.	Mother	=你想想看 (Tapping head with finger) <i>Think about it.</i>

repetitive utterance, which will occur in Lines 12 and 19 in altered forms.

With his gaze first (Line 9) and then verbally (the summon in Line 10), Ethan recruits grandmother as the recipient of his bid for attention. Once she offers an uptake (Line 11), he again declared himself to be the Lord Shen, but this time (Line 12), he did so with some noteworthy linguistic changes: (a) He switches from English to Mandarin, and (b) he uses a different denotation for the same referent (referring to Lord Shen this time as "a peacock"). Both changes may reflect *recipient design*, which in CA refers to the ways in which talk is constructed to display sensitivity to the intended recipient (Sacks et al., 1974). In this case, Ethan's use of Chinese was an adaptation to his grandmother, who spoke to him and the rest of the family overwhelmingly in Chinese. Using the animal's name (a peacock) rather than the specific character's name and title (Lord Shen) might also be adapted to grandmother's unfamiliarity with the referred movie.

Ethan's initiations are clearly attempts to recruit his mother and grandmother to join him in role-playing *Kung Fu Panda*. Neither adult, however, joins the fictional scenario. In Line 15, his mother repurposes his mention of a peacock to initiate an Initiation-Response-Evaluation (IRE) sequence. An IRE is a pedagogical sequence par excellence that aims to elicit knowledge displays from children about information that the adults already know (Bottema-Beutel et al., 2020). Fasulo and Fiore (2007) have shown that therapists' deployment of IREs in exchanges that were designed to engage autistic children in everyday conversation or small talk leads to resistance against the didactic frame and eventually withdrawal from interaction. There is evidence of this dynamic in this transcript, specifically in Line 16, where Ethan utters "I don't know." The choice of English in this moment is consistent with findings that code alternations can be employed for pragmatic distancing and frame change (Li, 2002; Li et al., 2000). Mom insists on soliciting an answer (Line 17). In Line 18, Ethan tries to move the agenda away from the IRE and back on the trajectory he had begun earlier by saying, "me too," and using a gestural echo of his turn from Line 2 of Excerpt 1—patting his chest, an attempt to reestablish himself as Lord Shen. His mother persisted in continuing the IRE sequence by asking him to "think about it," suggesting that she expected him to keep working on the answer to her question.

"Daddy Rooster"

In the excerpt below, Ethan is playing with his grandparents in his room after dinner on the same night. Throughout the interaction, Ethan is on his bed moving between sitting, standing, lying down, and jumping. As shown in Figure 2, Puo-Puo is standing at the side of his

Figure 2. A filtered, still image from a video recording corresponding to the interaction transcribed in Excerpt 3 showing Ethan and his grandmother talking with and gazing at each other.



bed. Gong-Gong is standing close by the end of the bed. Gong-Gong can be heard in the recording but is out of the frame.

The languages used in this interaction are English and Mandarin-Chinese.

In contrast to Excerpts 1 and 2 in which Ethan's attempts to start an interaction through role assignment (e.g., "I am./You are __") were cut short, the attempt in

this excerpt was quite successful. Since Ethan's parents had previously reported that he rarely took more than two sequential turns, it was notable in this sequence that Ethan took several turns (precisely, six in total, of which four are included in the transcript). The extended recording of this interaction was, in fact, among the most engaged moments captured from that week. Similar to the previous initiation attempts, in Line 1, Ethan started by summoning his grandmother to get her attention. In Line 4, Ethan simply said versions of "daddy rooster" three times and his grandmother understood it as a directive, "You be a daddy rooster." Accordingly, in Line 7, she opened her arms to simulate wings and crowed like a rooster. Here is an instance where the grandmother's familiarity with Ethan's echolalic utterance, "You are __," actually allowed them to reach mutual understanding that "daddy rooster" was a shorthand. Ethan and his grandparents go through additional sequences of this type of role play with Ethan continuing to give his grandparents elliptically phrased animal assignments: "And the mommy chicken" (Line 8) and "And a baby chick. Baby chick. Baby chick" (Line 11).

Excerpt 3.

	1.	Ethan	Puo-Puo!
	2.	Grandmother	Huh?
	3.	Grandfather	去吃芒果。去吃芒果。 [Sh-Go eat mango. Go eat mango.
→	4.	Ethan	Uh, Daddy rooster! Daddy rooster. Da-daddy rooster.
	5.	Grandmother	Daddy rooster?
	6.	Ethan	Yeah.
	7.	Grandmother	((Raises her arms to the side)) (0.5) /gogogo:go/ ((Imitating rooster crowing))
→	8.	Ethan	And the mommy chicken.
	9.	Grandmother	[(Puckers lips and makes eating sounds. Makes pecking motions with right hand.)]
	10.	Grandfather	[Mommy chicken /a ³ ? (Laughing)]
→	11.	Ethan	And a baby [chick. Baby chick. Baby chick ((Ethan jumps around.))
	12.	Grandfather	[/gogogogogugugogogo/
	13.	Grandmother	Uh, baby chick, baby chick? [tci tci tci/

³/a/ is a question marker in Mandarin.

Clinical Relevance

The findings derived from a CA-informed analysis of Ethan's recorded interactions were clinically relevant in several ways. First, they made visible that Ethan had competencies in many of the areas of social communication that his parents initially thought were lacking, including initiating, responding to questions, and engaging in

extended reciprocal conversational exchanges. Secondly, the data showed that rather than being an obstacle to participation, Ethan's use of scripts and echolalic utterances was often a resource that propelled and scaffolded interactions. His employment of creative variations across elements of repetition acted in many ways as a linguistically parsimonious interactional foundation upon which many pleasurable moments of intersubjectivity could be built. Also, Ethan's own interlocutors mobilized repetitions as strategy for engagement. Lastly, the data validated Ethan's multilingual competency and its significance for his participation in the family.

In working with Ethan and his parents in the university clinic, their clinicians did indeed incorporate these findings into therapy planning with the parents. Ethan's parents and grandparents were partners in the CA analysis process and reported that the experience helped them to become more attuned to the influences of the family's interactional dynamics on Ethan's communication. Seeing some of the benefits of Ethan's echolalic communication, they also began to embrace the idea of building interactions around his preferred scripts. Whereas previously, they focused on redirecting him when he used scripts, they started to experiment with joining him in role playing different scenes from his favorite movies. They were surprised to find that rather than becoming more dependent on scripts, Ethan's interactions with them in those moments grew to be more creative both thematically and linguistically over time.

Discussion and Conclusions

In this clinical focus article, we petitioned for considering CA as a robust method for nuancing our understanding and assessment of autistic children's communicative profiles. We have presented CA principles, methods, and insights, highlighting how they differ from those underpinning the dominant approaches to social communication in SLP. Specifically, we have underscored the relational and situated understanding of autistic communication and sociality that emerges from CA research and complicates deeply entrenched notions in SLP, notably the idea that social communication is an intrapersonal skill that can be measured, judged intact/impaired, and intervened upon. We also showed how the contextualized nature of a CA approach can affirm not only neurodiversity but also cultural and linguistic diversity, in this case, by showing the ways in which translanguaging resources are leveraged for the achievement of interactional alignment. The case illustration included in this article exemplified CA data treatment procedures and offered evidence of culturally situated autistic communicative abilities that would likely remain undetected by other assessment tools.

Most notably, a CA-informed assessment approach fills an ongoing gap in SLPs' ability to systematically address barriers to life participation, which is a priority in neurodiversity advocacy and consistent with the biopsychosocial approach of the ICF.

Although Ethan's interactions with his family members took place in their home, the methods demonstrated in this illustration can be productively applied by speech-language pathologists to assess the social communication dynamics of students at school and beyond. It builds on the techniques of naturalistic observation and language sampling, which are already commonly used by speech-language pathologists in school-based assessments, but offers a heretofore underutilized method of assessing students' participation. Excerpts of CA transcripts and analyses, as modeled in this clinical focus article, can be incorporated in assessment reports to support assessment conclusions and recommendations. Muskett (2017) noted that real-world time constraints may make it difficult for most speech-language pathologists to engage in extensive, detailed CA transcription work. He suggested that clinical observers who are experienced in a CA-informed approach may become skilled at noticing sequential patterns in real time, possibly without the need for transcriptions or even recordings. The act of engaging in the type of detail-oriented, sequentially focused analyses has indeed been found to sharpen student clinicians' acumen for identifying patterns within naturally occurring interactions (Hammarström & Samuelsson, 2021).

A neurodiversity-affirming approach to social communication assessment is one of examining threats to quality of life, identifying barriers to participation, and interrogating disabling systems of power. DeThorne and Sears-Smith (2021) emphasize in particular the roles that speech-language pathologists can play in centering autistic perspectives, using the Individual Education Plan process to create accessible environments, and honoring autistic sociality and self-expression. Toward these ends, CA methods and insights make a modest but important contribution by providing a theoretically grounded and methodologically rigorous means of examining autistic social communicative competencies within everyday interactions. It offers a starting point for understanding how interactions can be mediated to promote inclusion and complements the larger aspirations of neurodiversity and disability advocacy within SLP.

Data Availability Statement

The data set presented in this article includes video recordings and transcripts. The participants did not give consent to share the video data outside of our research team; hence, they cannot be made available. Deidentified

transcripts of the video data are available from the authors upon reasonable request.

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Appendix

Transcription Notations

Italics	English translation
[The point at which these two marks align vertically marks the beginning of
[overlap between two participants’ turns
()	Gestures, actions, and interactions with environment
(.)	A brief pause
(. . .)	Undeciphered speech
=	Speakers’ utterance latched on to the utterance of the previous speaker
-	Abrupt cutoff
//	Phonetic transcription
:	Elongated vowel
?	Rising intonation
!	Exclaiming

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