



Facilitating Toddlers' Social Communication from Within the Parent-Child Relationship: Application of Family-Centered Early Intervention and Mediated Learning Principles

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Abstract

Two complementary theoretical orientations, family-centered early intervention and mediated learning, provide guidance for parent-mediated intervention for toddlers on the autism spectrum. Early intervention for infants and toddlers with disabilities and their families has evolved toward a set of practices that are family-centered, relationship-based, situated in natural environments, and embedded in natural experiences. Mediated learning emphasizes competency-oriented principles that promote “learning to learn” through focusing, organizing and planning, giving meaning, encouraging, and expanding. This chapter describes the integration of early intervention principles within a mediated learning framework to cultivate developmentally important social communication competencies for toddlers with autism. The aim of this approach is to embed relationship-based learning in naturally occurring interactions and to build on prior learning and personal interests as a means of promoting learner self-

efficacy, motivation, and active engagement in the social learning process. This integrated framework provides a structure to guide both parent and toddler learning by actively facilitating parents' conceptual understanding and confidence for supporting toddler social engagement.

For toddlers, the parent-child relationship is a prime venue for learning, and when social communication challenges of autism are added to the picture, this relationship takes on special importance. Parent-mediated intervention, to the extent it supports a central role for families and promotes active involvement in the learning process, has the potential to harness the parent-child relationship toward critical intervention priorities while safeguarding the parent's primary role as nurturing caregiver. Two theoretical orientations, family-centered early intervention and mediated learning, contribute guiding frameworks that support a strong parent role in promoting toddler learning. This chapter describes how these complementary schemas can be applied synergistically to build family capacity for supporting social communication learning for toddlers on the autism spectrum.

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As described below, the components of an integrated early intervention/mediated learning framework are aimed at helping parents guide interaction to support their toddlers' full integration into family life, developing both parents' and toddlers' sense of competence in their mutual engagement, and providing a strong social foundation to support broad-based learning across domains and settings. This orientation emphasizes toddlers' current and potential competencies over perceptions of deficit or disorder. A competency-based emphasis is important in parent-mediated intervention in which parents' belief in their children's potential is necessary to sustain their active involvement. In short, this framework promotes a view of toddlers and parents who bring competencies to and are actively engaged in a mutually interactive learning process.

Early Intervention Principles of Practice

The early intervention (EI) field has united around a theory of practice in which families and homes are a primary intervention venue for infants and toddlers with disabilities, intervention is provided collaboratively with families and is oriented toward relationships, and child learning is embedded in natural experiences (Odom & Wolery, 2003). Directly supporting caregivers to facilitate their children's development has been found to impact families' sense of empowerment and to predict positive child outcomes, and infants and toddlers whose parents received focused help to support child learning showed greater progress than those who received direct intervention from professionals (e.g., Dunst, Bruder, Trivette, & Hamby, 2006; Thompson & Lobb, 1997).

Policy and Recommended Practices for Toddlers and Families

Essential aspects of family-centered services and supports were promulgated into law in Part C of IDEA ("Individuals with Disabilities Education

Improvement Act, 20 U.S.C. § 1400," 2004), key features of which set EI apart from educational provisions for older children. These features include a dual focus on the child and family, an orientation toward helping families support their infants' and toddlers' growth, and full integration of intervention in natural environments. The theoretical and policy provisions of family-embedded early intervention, along with scientific research and experiential knowledge and values gathered from stakeholder groups, gave rise to an evolving set of recommended practices to guide intervention for young children with disabilities and their families (Division for Early Childhood, 2014).

The National Association for the Education of Young Children (NAEYC) has also delineated recommended practices for young children (Copple & Bredekamp, 2009), and for toddlers specifically (Copple, Bredekamp, Koralek, & Charner, 2013), that are important if toddlers' status as young children and family members, rather their diagnosis, is to be viewed as their primary defining characteristic. The NAEYC guidelines for developmentally appropriate practice emphasize the importance of nurturing adult-child relationships, cross-domain learning, reciprocal family-professional relationships, active involvement in the process of learning, providing scaffolding to challenge children just beyond their mastery level, play as a learning vehicle, and confidence- and motivation-enhancing experiences.

Part C policies and early childhood special education- and NAEYC-recommended practices have been distilled into a set of four broad principles of early intervention (Schertz, Baker, Hurwitz, & Benner, 2011). The principles call for practices that (1) strengthen parent-child relationships and enhance the family's capacity to promote the child's development, (2) are provided in natural environments and integrated throughout typical everyday experiences, (3) promote an active child role in learning by enhancing child motivation and self-initiated learning across environments, and (4) use systematic and functional practices that challenge children just beyond their mastery level, recognizing individual differences. In a review of the extant toddler

autism intervention research, 27 studies were evaluated for their interventions' congruence with these principles (Schertz et al., 2011). The most pronounced gaps in reported intervention practices with respect to EI principles were in the areas of natural and inclusive environments and family-centered and family supportive practices. Overall, the reported interventions appeared to align more closely with autism – than with EI-related recommendations, as indicated by more references to National Research Council (NRC) recommendations (Lord & McGee, 2001) than to Part C or EI recommended practices, perhaps accounting for their incomplete adherence to EI principles.

The need for increased attention to EI principles in early intervention designs for toddlers on the autism spectrum is beginning to gain recognition. A group of early intervention researchers recently called for interventions to incorporate some of the practices embodied in EI principles, including intervention methods that are naturalistic and developmentally appropriate, that involve families, that combine developmental with behavioral approaches, and that are integrated within natural settings (Schreibman et al., 2015). These researchers also acknowledged the need for more finely tuned study based on meaningful measures of functional change, active ingredients of interventions, more tailored intervention designs, and interventions' transportability to community-wide applications.

Intervention Considerations in Relation to EI Principles

One unresolved issue with respect to EI principles is that of intervention intensity or dosage, which may need a fresh look as it relates to intervention for toddlers on the autism spectrum and their families. The oft-cited recommendation of at least 25 h per week of intervention for young children with autism (National Research Council, 2001), often interpreted as time spent in face-to-face, professionally delivered intervention, was not based on research with children under age 3 because toddler screening and diagnostic procedures were not yet in general use at the time.

Future research is needed to determine whether, or the extent to which, highly intensive professionally delivered intervention for toddlers on the autism spectrum has an independent effect on meaningful and important long-term outcomes. Another question for investigation concerns the compatibility of intensive professionally implemented interventions with recommendations for developmentally appropriate and family-centered practices. Parent-implemented interventions are now being more widely reported for toddlers on the autism spectrum; however, dosage, fidelity, quality, and child responsiveness are difficult to capture and measure in these models (Lieberman-Betz, 2015). Therefore, further research is also needed on intervention design conditions, meaningful outcome measures, and compatibility with key EI principles for parent-implemented intervention approaches.

Other broader variables may influence intervention outcomes. Some potential influences, which are also not yet well studied in relation to toddlers on the autism spectrum, are relevant to consider when designing interventions that incorporate EI principles. These include the degree to which the intervention (a) systematically focuses on developmentally sensitive core autism-related difficulties, (b) is relationship-based and integrated within natural interactions and routines, (c) promotes learner self-efficacy, and (d) accounts for influences known to affect early learning processes, such as motivation and child initiative. A discussion of each follows.

Well-targeted early intervention focus The dual challenges of social communication and repetitive and restrictive behaviors (American Psychiatric Association, 2013) take different forms for toddlers than they do for older children and adults on the autism spectrum. Evident at the preverbal level before verbal language emerges, toddlers on the autism spectrum experience social communication difficulties in the form of absent or diminished joint attention and other nonverbal forms of social communication and reciprocal interaction (Adamson, Deckner, & Bakeman, 2010). Such preverbal indicators have been found in replicated research to be foundational for verbal communication and related social and

cognitive competencies (Bottema-Beutel, 2016; Charman, 2003; Freeman, Gulrud, & Kasari, 2015; Gillespie-Lynch et al., 2012; Mundy & Newell, 2007; Poon, Watson, Baranek, & Poe, 2012; Tomasello, Carpenter, Call, Behne, & Moll, 2005). Thus, intervention focusing directly on the core challenge of social communication at the toddler's current level of functioning (i.e., usually at the preverbal level) is essential for laying a foundation from which other learning can be leveraged.

Unusual signs of repetitive behavior, the second core characteristic in autism, begin to appear in the second year for toddlers with autism when groups with and without later diagnoses are compared (Morgan, Wetherby, & Barber, 2008); however, there is considerable overlap between the groups in their manifestation of repetitive behaviors, which are a feature of typical as well as atypical early development (Barber, Wetherby, & Chambers, 2012). Perhaps as a consequence, intervention research in this area has been more limited than social communication-focused research. Although strategies to address repetitive and restrictive behavior (RRB) have been tested for (mostly) older preschoolers, their effects are as yet not well known, as specific RRB-focused intervention targets and associated primary outcome measures have not been widely reported (Harrop, 2014).

Integration in the natural environment The second consideration for designing interventions compatible with EI principles is the extent to which learning opportunities are integrated within natural everyday experiences. This variable may serve as a proxy for intervention intensity – but in a more developmentally appropriate manner than adult-directed didactic formats would allow. Social communication learning for very young children occurs primarily through interactions embedded in the parent-child relationship. The quality and focus of these relationships play a critical role in early learning with the potential to enhance learning in other developmental domains (Li & Julian, 2012). A challenge for interventionists is to provide caregivers with

effective guidance to fully comprehend learning goals and processes, enabling them to flexibly “think on the fly” as they provide targeted learning opportunities seamlessly throughout daily interactions, activities, and caregiving routines. The effectiveness of relationship-based learning depends in part on the skillfulness with which parents support their children's preverbal social engagement through scaffolding, responsiveness, and positive emotional reactivity (Legerstee, Markova, & Fisher, 2007; Siller, Hutman, & Sigman, 2013; Vaughan et al., 2003). Relationship-based learning is bidirectional and transactional with both partners contributing to forward momentum in the learning process. In one example of this phenomenon, the child's contribution to relationship-based learning is illustrated in a parent-implemented intervention for toddlers on the autism spectrum in which, as toddlers' negative expressions decreased, parents' positive scaffolding increased (Gulrud, Jahromi, & Kasari, 2010).

Researchers of early development have characterized parent-infant interaction as the primary medium through which meaning develops (Beeghly & Tronick, 2011). Compared to other forms of learning, social communication may be less amenable to traditional training approaches that require the child to follow directions – an instrumental form of interaction – than to opportunities for socially meaningful engagement in which a child interacts with a partner on a more equal basis. Unlike scripted or other instrumental forms of communication, authentic social engagement requires an awareness of and appreciation for a communication partner's perspective and the ability to share attention with the partner in relation to their common interests (Tomasello, 2007). It should be noted that children with autism tend to be relatively proficient with instrumental forms of communication such as following directions or requesting; it is the explicitly social forms, such as “commenting” or response to others' comments through gaze shifts in reference to an object, that present particular challenges for them (Mundy, Sigman, Ungerer, & Sherman, 1986). These more strictly social

forms of communication are context dependent and may require more internal motivation and awareness of others' perspectives than do regulatory skills such as following directions, labeling objects, imitating actions, or regulating problem behaviors. Similarly, because of its contextual variability, social communication may be less amenable to intervention strategies that are bound by time or place or that are designed to elicit specific predetermined behaviors.

As early social communication is embedded within supportive relationships, it becomes naturally integrated within the routines and activities of everyday life. Further, to the extent that natural venues are used as learning opportunities, learning becomes more easily integrated into the child's repertoire than if it were conducted as separate training sessions divorced from everyday experiences. Integrating early learning within toddlers' natural experiences also avoids the need for separate "generalization training" to transfer formally taught skills to natural settings, as would be needed if intervention was conducted in separate settings by professionals who were not otherwise a part of toddlers' daily lives.

Promotion of parent self-efficacy A third influence, self-efficacy, or the perception of oneself as competent, is theorized to interact bidirectionally with environmental influences to produce change, in part because, without a belief that one's actions would produce an effect, there would be little incentive to act (Bandura, 1997). Thus, in self-efficacy theory, individuals have agency and are not viewed as mere reactors to environmental influences. A complex transactional relationship has been found between parent self-efficacy and a range of variables, including parent responsiveness in parent-child interaction, child and family characteristics, family functioning, the parent-child relationship, parental sense of well-being, and child social-emotional and developmental outcomes (Guimond, Wilcox, & Lamorey, 2008). Secondary benefits are also suggested in findings that parenting self-efficacy moderates the relation between autism severity and measures of parent mental health for parents of children on the autism spectrum (Hastings & Brown, 2002).

Further, building competence in primary caregivers may have a compounding effect. As parents gain knowledge and skills to promote social communication and apply it in daily interactions, they see positive results from their efforts, which in turn circles around to strengthen their self-efficacy and bolster motivation to continue building on their own accruing success and that of their children.

Parents' direct involvement in intervention appears to play a role in their understanding of their own competence to support their children's development. In a study comparing a partnership approach with a clinician-directed approach for teaching parents of toddlers with ASD to implement intervention, parents in the partnership condition showed increased confidence compared to those in the clinician-directed condition (Brookman-Frazee & Koegel, 2004).

Active engagement in the learning process A fourth variable with potential for enhancing intervention effects for toddlers with social communication challenges concerns broad-based conceptions of learning that consider individual or transactional contributions to the learning process. A number of theories with relevance for promoting social engagement for toddlers with autism take into account internal or situational influences on early social learning. Examples of these theory-based influences include the dynamic relationship between current and prior learning (Smith & Thelen, 2003; Vygotsky, 1978), context-based participation (Lave & Wenger, 1991), ecological systems (Bronfenbrenner, 1992), self-efficacy (Bandura, 1997), culture (Rogoff, 2007), neural dynamics (Shonkoff, 2010), the social environment (Vygotsky, 1934/1986), and integration of environmental and biological influences (Sameroff, 2010). A commonality among these learning theories is that each attributes agency to the individual learner, who is seen as an active contributor to the learning process. Addressing the question of whether toddlers are active learners, as had been found for older children, Chen and Siegler (2000) studied toddlers' cognitive processes and found

that, like older children, toddlers approached problem-solving experiences by expanding on their earlier learning and transferring it to new contexts and challenges, thereby actively integrating earlier learning to address new problems. One framework that incorporates precepts of learner competence, socially and culturally based learning, contextualized learning, and learner self-efficacy is mediated learning, which we describe next in relation to social communication learning for toddlers on the autism spectrum and their caregivers.

Mediating Learning: Fostering Active Involvement in the Learning Process

Toddlers on the autism spectrum, like their older counterparts, may show advanced learning in areas of targeted individual interest, learning that is guided primarily by internal motivation rather than adult direction, and in which children appear to generate their own learning by pursuing their individual specialized interests. A challenge for interventionists and parents is to help toddlers acquire a similar internalized drive to learn in areas that are relatively difficult for them, such as social communication, for which they may be less motivated to advance their own learning. One approach to encouraging motivation for self-directed or generative learning in social communication for toddlers with autism is to garner children's active engagement in social interaction, a central goal of mediated learning. The following section describes how mediated learning principles might be applied to promoting social communication learning for toddlers with autism-related concerns.

Sociocultural learning theory As interpreted in the Vygotskian social learning tradition, early learning is internalized through interactions with competent adults in everyday participation-based activities that are sensitive to children's current knowledge or skill levels (i.e., occur within the zone of proximal development) in familial culturally based contexts (Cole, 1985). Rogoff advanced

the idea of guided participation as an ingredient in early developmental learning that generates a process of enhanced understanding (Rogoff, 1990; Rogoff, Mosier, Mistry, & Goncu, 1993). In this theory, awareness is created through socially guided mutual engagement that builds on prior knowledge and interests to create a new level of understanding. Guided participation-based learning contrasts with a more directive process of "importing an external process to the internal plane" (Rogoff et al., 1993, p. 229), that is, by incorporating learner contributions to the learning process rather than attempting to implant ready-made predetermined learning protocols into the child's repertoire. In other words, the child does not simply internalize pre-formed training regimens but is an active participant in the process of learning, sharing the learning agenda. In this view, the learning process is not separated from the learning outcome. Rogoff's et al., (1993) research showed that middle-class US parents assumed a more didactic role in interaction with their toddlers than did those from an indigenous culture in which children had more responsibility for learning, although both used guided participation to different degrees.

Mediated learning foundations

Operationalizing Vygotsky's (1934/1986) social learning theory, Feuerstein (1980) described mediated learning as a theory of cognitive modifiability focused on broadening set patterns of thinking, countering resistance to change, and increasing awareness of others' perspectives. Although initially implemented with adolescents identified with cognitive disabilities (many of whom may have had ASD diagnoses if evaluated today), Feuerstein's theory would seem to carry particular relevance to designing intervention for those on the autism spectrum because of its focus on broadening thinking patterns and awareness of others' perspectives – both particular challenge in autism.

Klein (1996) extended Feuerstein's model to parents' mediation of infant cognitive learning, describing it as systematic promotion of flexible thinking through socially and culturally

contextualized processes. In this way, mediated learning aims to extend the benefits of learning opportunities. As an active view of learning that is less didactic than some models, this approach is framed around promoting the child's ability to focus on what is important to learn, to self-regulate behavior, and to recognize their success (Klein, 2003). Mediated learning is socially based; that is, it does not occur as isolated training-oriented tasks divorced from the social environment but is integrated into everyday interactions. Because it focuses on building capacity to learn rather than on short-term skill attainment alone, benefits may be most evident in the long term. Three-year follow-up studies found sustained and even increased gains from the mediational intervention for sensitizing caregivers (MISC) intervention that was implemented in Israel and applied cross-culturally in Europe, the United States, Ethiopia, Sri Lanka, and Indonesia. Widely adaptable, the approach has been studied with families who experienced a wide variety of challenging child and family conditions, including Down syndrome, very low birth weight, communication difficulties, neglect, and extreme poverty (Klein, 2003; Klein & Aloni, 1993). Essential features of MISC include targeted support to caregivers in the home setting, flexibility in cultural interpretations, encouragement and acceptance to support parents' awareness of their own competence, regular and systematic review of parent-child interaction videos in relation to mediation criteria, a focus on everyday interactions, responsiveness to child initiations, and promotion of parents' positive perceptions of child potential.

The mediated learning approach closely aligns with the EI principles described above. Both are relationship-based and focus on enhancing the family's capacity to promote child development in natural environments through typical everyday interactions. A focus on an active child role in learning is emphasized in both sets of principles, including promotion of context-independent self-initiation. Finally, both call for the use of individualized systematic practices that are sensitive to the child's current competency level.

Mediating Toddler Learning

A characteristic common to the mediated learning principles is that they all focus on the process of "learning to learn" by building on emerging foundational abilities to enable personal investment in the learning process. The goal of learning to learn extends beyond acquiring specific skills to promoting flexible forms of learning that leverage the child's own interests and resources, that are not task specific, and that are adaptable across contexts. Rather than training in parent/interventionist-determined task-related strategies, the focus is on promoting children's and parents' internalization of learning processes. As defined in the mediated learning principles, these are processes from which learners can initiate flexible and transferrable strategies across a wide range of tasks and activities. These process-oriented competencies, which support active engagement in learning, include focusing on social engagement in the face of competing interests, self-regulation, self-efficacy, understanding the meaning of learning opportunities, and applying learned skills in new social situations.

These targeted mediated learning competencies are broad-based to set the stage for meaningful learning across contexts. The process begins with natural everyday interactions and activities and embeds learning within them as opposed to being adapted from predetermined adult-directed activities that are contrived to make them appear "naturalistic." The active participation and self-determination that this level of learning entails are important because social communication requires motivation and initiative to accommodate wide variations in time, place, and interactive partners.

A mediated learning orientation is incorporated in the Joint Attention-Mediated Learning (JAML) approach, which is designed to foster social communication at a preverbal level for toddlers with autism through guided parent-child interaction (Schertz, Odom, Baggett, & Sideris, 2018). Toddlers on the autism spectrum may have other areas of difficulty in addition to social communication; however, the approach is designed to focus most directly on social

communication because of its primacy as a core area of difficulty in autism and because of its aforementioned role in supporting early learning in other areas. JAML's mediated learning principles are adapted from Klein's (2003) criteria. The five principles – focusing, organizing and planning, giving meaning, encouraging self-reliance, and expanding – are interpreted for each phase of intervention and introduced to parents in turn. These principles are operationalized in both parent-child and interventionist-parent interaction. They are identified in parentheses below as examples of their use are illustrated.

Mediation of social learning for toddlers with autism includes both more structured components related to the intervention content and less structured components that allow for flexibility in parents' use of mediated learning principles to translate the content into everyday activities. The intervention content focuses on the social, as opposed to instrumental, functions of preverbal communication and targets engagement at increasingly challenging levels. A developmental framework for building toward increasingly challenging levels of social communication at the preverbal level might take the form described in the following.

In their mediating role, parents apply these five principles to support their toddlers' ability to orient toward relevant learning targets, establish a sense of order and self-control in the learning process, achieve new insights, develop awareness of their own capability, and generalize learning to more complex problems and across contexts. At a first level of engagement, toddlers are encouraged to look freely and often to the parent's face in simple, pleasant interactions that occur with minimal competition from other objects or agendas. The parent avoids instrumental requests such as, "Look at me," seeking instead ways to encourage looks to the parent's face that arise from the child's own volition with purely social motives. To do this, the parent provides playful, engaging, and natural opportunities to look at each other, using the mediated learning principles as a framework. For example, before she begins a play session, a mother considers how she will help her child's looks to her face become the most

important part of the play (*focusing*) and may decide to begin by positioning herself upright on the couch with the child facing her on her knees (*organizing and planning*) to play a game of "horsey-ride." As the parent bounces the child on her lap, the sole agenda is to watch each other's expressions of delight (*giving meaning*). Each time the child looks to the parent's face, the parent smiles broadly and nods (*encouraging*). As the child begins to look more fully and reliably at the parent's face, the parent intentionally introduces some variability into the game to ensure the child can continue to look at her face as circumstances change, at first perhaps adding a song to the play then later using that same song to promote face-looking during bath time (*expanding*).

At a second level – when attention to the parent's face is well established – the child is helped to engage in reciprocal repetitive play that requires tacit acknowledgment of the partner's shared interest, such as waiting for the parent to take a turn. The parent begins to help the child build competency to engage in back-and-forth interactions. The parent avoids deviating from this agenda with activities that are more easily accomplished alone (e.g., completing puzzles), activities that have unrelated goals like naming shapes or colors, or directives such as "take a turn" that are more likely to promote passive direction-following than active social engagement. Parents encourage reciprocal interaction by taking advantage of naturally occurring repetitive activities that the child enjoys. For example, a father may consider how he can enter into his daughter's solitary activities in a way that gives opportunity for reciprocity to become the most important part of the play (*focusing*). He may decide to take advantage of the child's repetitive finger tapping by first waiting for the child to begin (*organizing and planning*). When she begins tapping her fingers on the table, he leans in close and uses his own hand to emphatically "bang-bang" on the table, then pauses in a silly, exaggerated way that invites the child to tap again (*giving meaning*). When she does, the father laughs and answers with another "bang-bang-big pause" (*encouraging*) and continues this back-and-forth tapping for as long as his

daughter holds interest. When she is responding readily and consistently and waits with anticipation for her father to take his turn, he intentionally introduces variability into the play by changing the tapping rhythm and later playing a rhythm game with spoons and forks after dinner (*expanding*). This reciprocal engagement helps to set the stage for joint attention, a triadic form of engagement that includes an external focus, and is a predictor of verbal communication (Carpenter, Nagell, & Tomasello, 1998; Mundy, Sigman, & Kasari, 1990).

This third level of preverbal social engagement, joint attention, often begins naturally in somewhat more complex reciprocal interactions between the toddler and parent that include shared attention to a toy or other object of common interest. In joint attention the child initiates or responds to bids for attention in relation to the object. Initiating bids have a purely social function of “commenting,” which take the form of social sharing (e.g., showing) rather than being governed by underlying instrumental motives of requesting. Similarly, responses to partners’ bids are also motivated by social rather than instrumental interest. In other words, the sole purpose of sharing interest in relation to the object or event is to communicate about it out of shared social interest rather than to address one’s own preferences or to respond to another’s direction. In one study, when parents approached their toddlers with social, as opposed to instrumental initiations, toddlers were likely to respond socially rather than instrumentally, indicating the importance of a socially focused intervention approach (Schertz et al. 2018).

To promote the child’s ability to show joint attention, the parent invites the child to share interest in an object by choosing activities that include a surprising or novel element to elicit nonverbal commenting through exchanges of looks between the object and the partner while avoiding directives. For example, a mother may begin by considering how she can best facilitate making shared interest in an object the most important part of the play (*focusing*). She decides to use a favorite stuffed elephant and thinks about what games would naturally entice her son to

look between the elephant and her face (*organizing and planning*). She decides to use the elephant to play a kissing game. First, she looks intentionally at her son and waits for him to look back. Then she shows him the animal by holding it out between them, looking at it with wide eyes and saying excitedly, “Oh, Elephant wants to give me a big kiss!” Then she waits expectantly for him to look at the elephant while playfully moving it or touching his hand to it to draw his look to the toy. She then draws his look back to her face by moving the elephant up to her mouth while making an anticipatory kissing sound (*giving meaning*). The parent and child continue to take turns kissing the elephant, with the parent patiently allowing time for gaze shifts between the toy and her face and acknowledging her child’s success with loving smiles (*encouraging*). At bedtime she modifies the game by asking him to show her all the stuffed animals in his bed as they kiss them goodnight (*expanding*).

These preverbal social communication targets can be operationalized for parents in verbal, written, and video forms to help them conceptualize their meaning and their importance to the child’s social and communicative development, how they look when a child is engaging in them, and strategies other parents have used to promote them with other toddlers who are on the autism spectrum. Similarly, other parents’ use of mediated learning principles to engage their toddlers at each level can be interpreted and exemplified in verbal, written, and video forms.

Mediating Parent Learning

Mediated learning principles are applied in both parent-child and interventionist-parent interaction. The examples above have illustrated how parents can apply the mediated learning principles to support their children’s development of foundational social communication competencies. In like manner, interventionists apply the principles as they consider how their support for parent learning will be provided. In their supportive role, interventionists guide parents’ active facilitation of their children’s learning by orient-

ing parents toward salient aspects of parent-child interaction that support the phase of intervention (*focusing*), by strategically highlighting relevant features of parent-child interaction (*organizing and planning*), by helping parents discriminate between aspects of parent-child interaction that are and are not effective and relevant to the current intervention emphasis (*giving meaning*), by facilitating parents' recognition of their impact on the child's social communication development (*encouraging*), and by engaging parents to add breadth and depth to interaction opportunities (*expanding*).

A number of general strategies can be considered to bolster parents' leadership role in the intervention. An active parent role is important to assure robust integration of social communication within incidental learning opportunities that occur throughout the day. Parents' competence (based on conceptual clarity and initiative) and confidence (appreciation of their ability to support their children's development) are both important components of an active parent role in a mediated learning approach.

Promoting parents' conceptual clarity The interventionist begins the process of bolstering parents' active leadership by actively and systematically supporting their understanding of the central tenants of the intervention content (*focusing*). A first step to supporting parents' competence in mediating their toddlers' social communicative learning is to provide conceptual clarity on the foundational importance of the intervention goals, both as relates to the goals' relevance to core difficulties in autism and to their theoretical and evidentiary importance for future development. This conceptual base is needed for the overall intervention framework and for each of its developmentally sequenced components, including how each provides a foundation for succeeding levels of preverbal social communication, for more advanced verbal forms of social communication, and for related learning domains.

A second element associated with promoting conceptual clarity relates to how the specific targeted social communication outcomes are

defined. These definitions or descriptions answer questions such as: How does reciprocal interaction look in toddler-parent interaction when a strong social element is or is not incorporated? What are indicators that a child is engaging in reciprocal interaction in ways that take the partner's separate role into account, such as by waiting for the partner's turn in back-and-forth interaction? How can we distinguish between social and instrumental functions when sharing attention around objects? Concepts generated from these questions can be demonstrated through multiple media. In our research, parents have been most responsive to video examples of other toddlers with autism demonstrating the relevant targeted outcomes.

A third element of conceptual clarity concerns parents' understanding of mediated learning principles. For some it may be a conceptual leap to understand parent-child interaction as more relational than didactic when it comes to helping children learn. The goal in a mediated learning approach is to guide the child toward taking an active role in her own learning and to engage socially through shared interaction rather than responding passively by following instructions. As described above, the mediated learning process orients the child toward active learning in order to add depth and ownership to the social learning process. Written, verbal, and video examples of other parents applying mediated learning principles are used to promote conceptual clarity about the mediated learning process, similar to the process used to help parents understand the targeted outcomes.

As parents conceptualize the current intervention focus with respect to the mediated learning principles, they are also guided to identify everyday activities and interactions to which they will translate the intervention content. This component focuses on how daily activities and caregiving routines can be adapted to promote current social communication outcomes. Parents are helped to take on a leadership role for this component since they are considered the experts with respect to their children's interests and aversions, family priorities and preferences, family routines, and cultural and language orientations.

The interventionist acts as a “guide on the side” to help parents assess the connection between the relevant intervention content and daily activities, that is, how the adapted activity or caregiving routine captures the essence of the currently targeted social communication competency. It is the intervention strategies rather than the intervention content that are the more context-dependent, and when parents assume leadership in translating intervention content into everyday parent-child interaction, accommodation to language and cultural preferences becomes a natural process because professionals are not dictating intervention activities and strategies. The overarching focus on preverbal social communication is assumed to be universally desirable, however interventionists should expect cultural variations in the form it takes for families who will have varying views of how parents and children should interact with one another.

Promoting parent confidence to support their children's learning In addition to supporting parents' competence, understanding, and faithful translation of intervention content into daily interactions, parents' confidence in their ability to promote their toddlers' social development and their belief in their children's potential to learn also play a role in their effectiveness. Interventionists can draw from a variety of strategies to support parents' understanding of their own and their children's competence and potential. For example, in the JAML approach, after parents are presented with the rationale and framework for the intervention content and mediated learning principles, translating this content into intervention activities becomes more open-ended and under direct parent control. To emphasize parents' expertise in devising intervention activities for integration into daily interactions, the interventionist avoids prescribing specific activities and instead presents ideas successfully used by other parents as “jumping-off points” from which the parent may invent her own activities (*organizing and planning*). These “ideas other parents have used” may be presented in multiple formats to illustrate parent-developed variations that are true to the current intervention

content and mediated learning principle(s) while representing a range of cultural and familial values or preferences. Drawing from other parents' examples is one way to highlight parents' expertise to creatively integrate their own activity ideas into the intervention framework.

Other intervention strategies support parents' understanding of and appreciation for their own competence in guiding their children's learning. One approach central to the mediated learning framework is guided reflection on parent-child interaction during each intervention session. While filming weekly videos, the interventionist acknowledges the parent as a competent leader by remaining silent for the duration of the recorded interaction. No instruction or commenting is given, and the interventionist refrains from interacting with the child. The interventionist's back seat role during parent-child interaction is an intentional strategy to honor the parent-child relationship and the parent's primary role with the child (a detailed discussion of video feedback strategies is provided in Chap. 14).

The video is viewed immediately after being recorded, and the parent is encouraged to watch the interaction from a new vantage point – that of an expert observer. To promote parent self-efficacy, an equal partnership is encouraged. Through guided reflection on the video, the interventionist mediates the parent's more advanced learning of intervention content and processes in ways that enable the parent to internalize and incorporate them in parent-child interactions (*giving meaning*), and the parent uses this knowledge to mediate the child's ability to drive his own social learning. Parents are encouraged to take the lead in the video reflection process, while the interventionist initially functions as a questioner and listener. The interventionist encourages the parent to talk about what was happening in the interaction, to consider why they think initiations and responses occurred as they did, and to become aware of how the interaction felt to them. Questions are designed to draw out the parent's understanding of how the child interacted with them with respect to the current targeted outcome and mediated learning

principle(s) and what parent actions seemed to facilitate the child's strongest engagement. Later, the interventionist may point out additional examples of positive instances in which the child's proactive engagement seemed to relate to a parent action (*encouraging*). To support self-efficacy, the interventionist refrains from highlighting negative examples, knowing that the parent will likely recognize and comment on them if they occur. If the parent describes a negative example, the interventionist may ask the parent to imagine alternative ideas for supporting the child's social engagement (*expanding*). It may be difficult initially for a parent to understand the difference between directing and facilitating their child's learning. This kind of reflective video review process is meant to enhance parents' understanding of how their actions can help their toddlers "learn to learn." When successful, the intervention is transformed from a parent-directed to a parent-mediated endeavor.

Summary

This chapter used a two-pronged focus to address intervention design considerations for toddlers who are identified with early concerns related to autism. The first concerns principles of early intervention that apply to all toddlers, including those with disabilities. These principles focus on integrating services and supports in the context of family systems and natural environments, promoting active child and family engagement in the learning process, and approaching intervention systematically. A second set of principles, complementary to the first, addresses the process of mediating child and parent learning. Mediated learning principles focus on promoting active learner attention to the *process* of learning to foster a capacity for "learning to learn." These principles involve the learner in focusing on specific learning targets, organizing and planning to facilitate active engagement, making meaning from learning opportunities, developing self-reliance and belief in one's competency, and integrating learning across contexts and time in everyday activities.

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