

deated ways, resulting in a growing sense of social competence and increased capacities in emotional regulation.

THE MIDDLE GROUND

In response to persistent concerns about a lack of generalization of trained skills, which was "noted time and time again" in the behavioral literature (Schreibman & Pierce, 1993, p. 184), behaviorally oriented researchers introduced teaching strategies in the 1980s that diverged significantly from earlier DT-TB approaches (Charlop & Haymes, 1994). Among the better known strategies discussed in the contemporary ABA literature are "incidental language teaching" (Hart, 1985); the "Natural Language Paradigm" (NLP), including "pivotal response training" (Koegel, O'Dell, & Koegel, 1989; Schreibman & Pierce, 1993); and "enhanced milieu approaches" (Kaiser et al., 1992). These approaches were developed as methods for achieving a more naturalistic approach of enhancing the language and communication development of children with autism/PDD and other childhood communication disabilities. All were based, in part, on principles and interactive processes drawn from the literature on caregiver-child interaction (Snow & Ferguson, 1977), developmental pragmatics (Bates, 1979; Bates et al., 1987), and applied behavior analysis.

There are a number of striking and significant distinctions between these contemporary ABA approaches and traditional DT approaches. First, "control" of the teaching interaction is either shared (Schreibman & Pierce, 1993) or shifted from "trainers" to children. Teachers are encouraged to "follow the child's lead" to encourage initiation and spontaneity in communication. Second, child-preferred and -selected activities provide the primary contexts and topics for communicative exchange (Schreibman & Pierce, 1993). Choice-making and decision-making opportunities are provided, rather than the trainer selecting and imposing teaching tasks. Third, because a child's attentional focus and preferences are fol-

lowed, natural reinforcers are utilized and interactions are more natural and "loosely structured" than the proscribed training protocols followed in a contrived 1:1 teaching setting. A fourth major distinction involves the specifics of how adults interact with children. As noted earlier, many interactive-facilitative strategies (Prizant & Bailey, 1992) used by "middle-ground" approaches are shared by SP-D approaches, which are based on the normal language and communication development literature (Bates et al., 1987). Adults play more of a role as communicative partner in supporting successful communicative exchanges and interactions, regardless of whether responses are correct or even contingent to the trainer's "topic." In incidental teaching, the NLP, or milieu teaching, it is preferable for communicative exchanges to be initiated by the child, with the adult being highly responsive to children's spontaneous communication (whether verbal, vocal, or gestural). For example, in the NLP, any goal-directed attempt at communication is reinforced (i.e., accepted); thus, there is no requirement that the child produce a predetermined, targeted behavior to receive reinforcement. Similar to SP-D approaches, the focus and ultimate goal of contemporary ABA approaches is to facilitate spontaneous communication and interaction. Incidental teaching, the NLP, and milieu strategies have been found to enhance generalization of language and communicative skills that are taught to children with disabilities, including those with autism (see Hart, 1985; Kaiser & Hester, 1994; and Schreibman & Pierce, 1993, for reviews).

Numerous strategies are described in the literature for designing the environment to encourage the initiation of communication (Wetherby & Prizant, 1993). The developmental literature emphasizes the importance of "engineering" the environment to enhance a child's motivation (i.e., internal drive) to communicate by providing opportunities and reasons for the child to initiate communication. The contemporary behavioral literature also describes specific strategies for encouraging language

use, such as pausing at critical moments in natural routines and interrupting chains of behavior by removing an object needed to complete the task (Halle, 1987; Kaiser et al., 1992). By making the initiation of communication a priority, natural opportunities for communicating can be seized in all settings.

Despite these shared characteristics, contemporary ABA and SP-D approaches differ in a number of important ways. First, some hybrid approaches do not draw as much from the research on sequences of language development in normally developing children and in children with autism/PDD as do SP-D approaches. Second, in SP-D approaches, there is less emphasis on eliciting and measuring discrete behavioral responses as primary measures of success and more emphasis on children's successful participation in extended interactive sequences and episodes. Third, in hybrid approaches, more intensive online data collection of frequency counts of isolated behaviors (e.g., words, vocalizations) is used to measure behavioral change, which is consistent with their behavioral tradition. In contrast, SP-D approaches place greater emphasis on multimodal communication and more natural teaching so that multiple goals are often targeted within a particular activity (e.g., communication, social-affective signaling, and play goals), and multilevel analyses of functional communicative acts involving verbal, vocal, and nonverbal components are often performed (Prizant & Duchan, 1981; Prizant & Rydell, 1984; Wetherby et al., 1998). Such analyses may be more informative of developmental progress and more reflective of true communicative behavior in daily activities; however, they clearly are more challenging to perform than are counts of specific behaviors. As a result, online data collection tends to be less intensive in SP-D approaches, with the goal of allowing clinicians to be free to participate more fully in and support a child's success in social interactions. Often videotaping is used for data collection and time-sampling procedures to measure change over time. Other methods for measuring developmental progress and

shifts, such as the collection and analysis of language and communication samples, also may be used in lieu of frequency counts of behavior.

Fourth, SP-D approaches are driven by an understanding of the interdependency of different aspects of development, such as the interrelations between communication and socioemotional development (Prizant & Wetherby, 1990a; Greenspan & Weider, 1998) and between language and play development (Westby, 1988). Thus, in addition to measuring developmental progress based on a child's acquisition of new communicative skills (e.g., words, gestures), progress is also conceptualized in reference to developmental shifts and a progression through developmental stages, thereby informing future goal setting. Fifth, SP-D interventions place greater emphasis on enhancing a child's communication abilities within meaningful events and routines, with clear beginnings, a sequence of logical steps, and a sense of completion, in order to enhance the child's cognitive grasp of the structure of events that occur in everyday life (Duchan, 1995; Quill, 1995). Finally, with few exceptions (e.g., Schreibman et al., 1991), SP-D approaches give more emphasis, compared with most contemporary ABA approaches, to addressing a child's communication development within the context of developing relationships and socioemotional growth. Such goals include understanding and expressing emotions and mastering increasingly complex stages of emotional and social-cognitive development (Greenspan & Weider, 1998; MacDonald, 1989; Prizant & Wetherby, 1990b). Prizant and Wetherby (1990a, 1990b) and Wetherby and Prizant (1992) argue that children's ability to share emotions with others and express positive affect has a central role in understanding the interrelationships between their communication and socioemotional development and in targeting goals and measuring their treatment outcomes. In contrast, the role of affect and emotional expression in children's motivation and learning is minimized in both the contemporary behavioral and the DT-TB literature. For example, Green

