An Intervention Hierarchy for Promoting Young Children's Peer Interactions in Natural Environments

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Young children's peer-related social competence has been viewed as a critical developmental competency during early childhood. Nevertheless, a number of young children, particularly young children who have disabilities or who are at risk for disabilities, have peer interaction difficulties. During the last several decades, various intervention strategies for improving young children's peer interactions have been developed, refined, and evaluated in early childhood programs. This article presents a conceptual framework based on an intervention hierarchy for assisting interventionists in deciding how to promote the peer interactions of young children with peer-related social competence difficulties in natural environments. We discuss making developmentally appropriate and inclusive early childhood programs the foundation for improved peer interactions. Several illustrative and empirically validated intervention strategies for these children are presented and recommendations are made regarding flexible employment of the hierarchy to individualize peer interaction interventions.

Children's tendency to seek social interaction with peers is considered a critical developmental competency that begins to be established early in life, with young children's peer interactions increasing in frequency and complexity throughout their early childhood years (cf. Hartup, 1992; Ladd & Coleman, 1993; Rubin, Bukowski, & Parker, 1998). Researchers with diverse theoretical perspectives have noted that young children's successful peer interactions provide both an important context and a mechanism for the acquisition and elaboration of essential developmental abilities such as social, language, and cognitive competencies (Bijou, 1993; Vygotsky, 1978). Given the acknowledged importance of young children's interactions with others, many educators have argued that the attainment of effective social behavior with peers is a fundamental feature of early childhood (Guralnick & Neville, 1997; Hartup, 1992; Ladd & Coleman, 1993; Odom, McConnell, & McEvoy, 1992). Moreover, children's peer-related social competence has been viewed as a critical developmental process for development of peer relations and friendships during early childhood (cf. Newcomb & Bagwell, 1995; Odom et al., 2001; Richardson & Schwartz, 1998; Rubin et al., 1998).

Researchers have noted that young children who have peer interaction difficulties and who fail to develop positive peer relationships (in contrast to those who are socially sophisticated) are at risk for behavioral and social maladjustment in later life. Young children with a variety of developmental difficulties, including cognitive delays (Guralnick & Groom, 1987; Kopp, Baker, & Brown, 1992; Lieber, 1993), behavioral problems (Campbell, 1990; Webster-Stratton, 1997), and histories of child abuse and neglect (Fantuzzo et al., 1988; Mueller & Silverman, 1989), may be at risk for peer interaction difficulties and poor peer relationships during early childhood. For example, in recent studies of young children with and without disabilities in inclusive preschools, investigators found significantly less social behavior among children with disabilities (Brown, Odom, Li, & Zercher, 1999) and that about 30% of the children with disabilities were socially rejected (Odom et al., 2001). In particular, young children who have significant behavioral problems with peers (aggression, negative verbal interactions, property destruction) have been found to be at high risk for peer interaction and peer relationship problems as well as later psychopathology (Campbell, 1990; Parker & Asher, 1987;
Webster-Stratton, 1997). The widely acknowledged importance of peer-related social competence has been based on two consistent findings: (a) positive peer interactions are an important route for children's enhanced development, and (b) peer interaction problems are a primary predictor of children's future social competence difficulties.

Because of the critical nature of young children's peer-related social competence, many early childhood educators have advocated the explicit integration of peer interaction interventions in early childhood programs, particularly when those programs include children who are at risk for social competence problems (Brown & Conroy, 1997, 2001; Guralnick, 1999, 2000; McEvoy, Odom, & McConnell, 1992; Mize, 1995; Odom & Brown, 1993). In addition, memberships of professional organizations such as the National Association for the Education of Young Children (Bredekamp & Copple, 1997) and the Division of Early Childhood of the Council for Exceptional Children (McEvoy & Odom, 1996; Sandall, McLean, & Smith, 2000) have endorsed the inclusion of social competence activities as a recommended practice for early childhood curricula. Given the acknowledged importance of young children's peer interactions for the development of peer-related social competence, researchers have investigated a number of strategies to improve peer interactions of young children who were at risk for social interaction problems. A comprehensive review of peer interaction interventions is beyond the scope of this article, and several reviews that discuss a variety of effective intervention strategies have been published previously (Brown & Conroy, 1997, 2001; Chandler, Lubeck, & Fowler, 1992; McEvoy et al., 1992; Odom & Brown, 1993; Sainato & Carta, 1992). Most often, effective peer interaction interventions have included the systematic use of reinforcers, instructions, prompts, models, rehearsals, feedback mechanisms, discussions, or some combinations of those procedures for improving young children's peer interactions (cf. Brown & Odom, 1994; Chandler et al., 1992).

In spite of the development and evaluation of intervention strategies for improving peer interactions, existing evidence (albeit limited) has indicated that contemporary intervention technology often has not been used in early childhood programs. For example, an observational study by McConnell, McEvoy, and Odom (1992) showed that teachers in preschool programs rarely used peer interaction intervention strategies. In a multistate survey of preschool teachers, respondents reported the extent to which they used classroom-based social interaction interventions (Odom, McConnell, & Chandler, 1993); survey results indicated that teachers were more likely to employ general classroom interventions (environmental arrangements, group discussions) than individualized interventions (prompting peer interaction, teaching specific social behaviors). Other indirect evidence has indicated that only 5 of 15 recommended social competence intervention practices were used frequently or sometimes in early childhood special education programs (Odom, McLean, Johnson, & LaMontagne, 1995). In addition, content analyses of a sample of young children's Individualized Education Programs (IEPs) showed that social goals were not identified or planned for most children (Michnowicz, McConnell, Peterson, & Odom, 1995). Hence, a significant gap exists between the extent intervention technology for enhancing young children's peer interactions and the translation of that technology into practice in natural environments (i.e., incongruence between “what we know” and “what we do” as practitioners; Brown & Conroy, 1997, 2001; Odom, 1988; Rule, Losardo, Dinnblit, Kaiser, & Rowland, 1998).

Given the developmental importance of young children's peer interactions and the limited use of existing peer interaction interventions in many early childhood programs, the purpose of this article is to present a conceptual framework based on an intervention hierarchy for assisting interventionists in deciding how to promote the peer interactions of young children with peer-related social competence difficulties in natural environments. We note the importance of establishing developmentally appropriate and inclusive early childhood programs for young children's peer interactions. We then present five empirically validated intervention strategies for young children who have peer interaction problems. Finally, we recommend flexibility in using the hierarchy to individualize peer interaction interventions for young children in natural environments.

**HIERARCHY FOR PROMOTING PEER INTERACTIONS**

During the 1990s, in relatively brief descriptions within two chapters, we recommended that interventionists employ a decision-making hierarchy to select peer interaction interventions that might improve young children's social interactions, their peer-related social competence, and ultimately, their peer relationships (Brown & Conroy, 1997; Odom & Brown, 1993). In this article we expand the hierarchy with a second classroom-wide intervention strategy—affective interventions to influence children's attitudes. In addition, we augment the hierarchy with another individualized intervention strategy—social integration activities (see Figure 1). Our intent in developing the hierarchy has been to assist interventionists in planning peer interaction interventions that are both compatible with (i.e., easily used by teachers in classrooms) and effective in early childhood programs (i.e., validated by researchers in classrooms; see Note 1). The decision-making process is sequential in nature in
that we have encouraged interventionists to employ the least intrusive and most normal type of peer interaction interventions (ones that require fewer changes in classroom routines with fewer additional resources) before moving on to more complex, demanding interventions. In addition, we have recommended that interventionists first employ two classroom-wide interventions—developmentally appropriate practices (DAP) within inclusive early childhood programs and affective interventions—to influence children’s attitudes. When needed, we have recommended that interventionists employ four individualized interventions: incidental teaching of social behavior, friendship activities, social integration activities, and explicit teaching of social skills. When a particular intervention is not effective, we have suggested that interventionists proceed to another, perhaps more intensive, intervention that might involve additional teacher planning and preparation time and relatively straightforward classroom changes. Although developed independently, the hierarchy has been similar to and compatible with recommendations of other early childhood educators who have advocated the initial use of less directive procedures when promoting children’s development (Bricker, Petti-Prentczak, & McComas, 1998; Noonan & McCormick, 1993; Nourit & Van Hoorn, 1991; see Note 2).

We previously noted that critical aspects of our decision-making process are that intervention strategies should be (a) effective (i.e., clearly improve children’s peer interactions); (b) efficient (i.e., make meaningful use of children’s and teachers’ time); (c) functional (i.e., pro-
mote generalization and maintenance of social competencies needed in early childhood programs; and (d) normalized (i.e., the most natural intervention techniques possible)” (Brown & Conroy, 1997, p. 86; for discussion of effective and efficient interventions see Carta, Schwartz, Atwater, & McConnell, 1991; Wolery, Strain, & Bailey, 1992). At each level of the hierarchy we have suggested that interventionists carefully evaluate whether children's peer interactions have improved. (Are there, for example, increased positive peer interactions, more sophisticated peer interactions, or emerging peer relationships?) We have recommended that direct observation be employed as a primary method to determine if children’s peer interactions have been enhanced. If following implementation of peer interaction interventions, systematic classroom observations indicate that young children's social interactions have not improved markedly, we believe that additional intervention should be implemented (e.g., friendship activities in addition to incidental teaching). Direct observations of children during routine classroom activities across time should allow interventionists to determine if their use of a particular intervention has promoted young children’s peer interactions (information about classroom observations see Odom & Munson, 1996; Schwartz & Olswang, 1996; Utah State University, 1998; Wolery, 1996). Moreover, observations will inform interventionists about whether children have maintained or elaborated their newly acquired social competencies. In the following sections, we will discuss each level of our decision-making hierarchy in greater detail.

**DAP and Inclusive Early Childhood Programs**

Educators have developed guidelines for high-quality, early childhood services (Bredekamp & Copple, 1997). These recommended practices have provided a flexible framework for establishing DAP in early childhood programs. Many early childhood special educators have recognized the importance of DAP as a context for providing individualized services to young children with and without disabilities (Atwater, Carta, Schwartz, & McConnell, 1994; Brown, 1995; Brown & Conroy, 1997; Cavallaro, Haney, & Cabello, 1993; Conroy, Langenbrunner, & Burleson, 1996; Diamond, Hestenes, & O’Conner, 1994; Wolery et al., 1992), and DAP has been adopted as a recommended practice in early childhood special education (Odom & McLean, 1996; Sandall et al., 2000).

Our understanding of DAP has suggested that teachers and early childhood environments should be supportive of young children's peer interactions. For example, developmentally appropriate early childhood programs have been arranged in learning centers (pretend play, manipulatives, emergent literacy) that promote most young children’s engagement with materials and peers (Isbell, 1995). Along with many other researchers, we have argued that the presence of appropriate classroom materials (Beckman & Kohl, 1984), well-planned learning centers (Pettrako & Howe, 1996), responsive teachers (Bredekamp & Copple, 1997), and socially responsive peers (Odom & Brown, 1993) are supportive conditions for enhancing young children’s engagement and development.

Although DAP might be necessary, without further individualized intervention it may not be sufficient for promoting some young children’s emerging peer-related social competence (cf. Brown & Conroy, 2001; Brown et al., 1999). We have argued that it has been critical for interventionists to understand that individualized intervention does not mean that only a single child will be the focus of intervention, nor that a child will be taught in a one-to-one teaching format (Brown & Convoy, 1997). Rather, the implementation of individualized services indicates that children were assessed individually (at least with respect to analyzing their assessment information) and that one or more children’s individual needs required additional intervention to promote their participation in classroom activities or their development. In early childhood programs with young children, one, multiple, or even all the children (i.e., classroom-wide intervention) might be participants in and benefit from individualized interventions that are implemented to meet the needs of one or several children.

During the last decade in particular, early childhood educators and early childhood special educators have recognized that inclusion of young children with and without disabilities is an important dimension of DAP (Atwater et al., 1994; Brown, 1995; Bredekamp & Copple, 1997; Odom et al., 1996; Sandall et al., 2000; Wolery & Wilbers, 1994). Early childhood inclusion has had legislative (P. L. 105-17), empirical (Buyse & Bailey, 1993; Lamorey & Bricker, 1993), and public policy support (Bredekamp & Copple, 1997; Odom & McLean, 1996). Indeed, New and Mallory (1994) argued that an “ethic of inclusion” has emerged in the thinking of many early childhood educators (p. 1). Moreover, for the last several years, inclusion has been a primary method of service delivery for young children with disabilities (U.S. Department of Education, 2000).

A long-standing rationale for early childhood inclusion has been to provide young children with disabilities with socially supportive and developmentally engaging classroom environments (cf. Bricker, 1978, 1993; Odom & McEvoy, 1988). For young children with developmental difficulties, the presence of young children without disabilities has been important for providing both peer models of competent behavior and socially responsive playmates (Guralnick, Connor, Hammond, Gottman, & Kinnish, 1995). Moreover, the activities and the existing
social dynamics found in most early childhood programs provide an ideal context for promoting young children’s peer interactions (cf. Odom & Brown, 1993). As Ladd and Coleman (1993) suggested, two important pathways for improved peer-related social competence are access (opportunities to interact with competent peers) and a rich history of positive peer interactions (frequent child to child interactions with multiple peers across time). Developmentally appropriate and inclusive early childhood programs that support young children’s peer interactions may provide these two critical routes for children’s emerging social competence. Unfortunately, careful analyses of inclusive early childhood programs have indicated that relative to peers without disabilities, children with disabilities may be at risk for being socially excluded (Brown et al., 1999; Hestenes & Carroll, 2000; Odom et al., 2001). Nevertheless, given the potential social dynamics and possibility for implementing well-targeted peer interaction interventions, a pragmatic classroom-wide strategy for teachers who serve young children with and without disabilities should be to establish DAP within inclusive early childhood programs. Indeed, DAP may well be a critical foundation for any subsequent interventions to improve children’s peer interactions. As a second classroom-wide strategy, we have encouraged teachers to implement affective interventions that promote positive attitudes about peers with disabilities.

**AFFECTIVE INTERVENTIONS FOR IMPROVING ATTITUDES**

Another classroom-wide strategy to support young children’s social interactions has been the implementation of affective interventions that nurture children’s positive attitudes about peers who have different developmental abilities (Favazza & Odom, 1997). Affective interventions have been characterized by an emphasis on changing children’s attitudes about and perceptions of individuals, particularly peers, with disabilities (see Note 3). For over a decade, within the DAP guidelines, educators have recommended affective strategies for supporting the inclusion of young children with disabilities (see chapter 5, Derman-Sparks & Anti-bias Curriculum Task Force, 1989, for details). Nevertheless, the guidelines for anti-bias approaches have remained very general, and frequently the recommendations have not been empirically validated. With respect to disabilities, anti-bias guidelines have included the following:

1. creating inclusive classrooms;
2. encouraging children with and without disabilities to interact;
3. promoting awareness of disabilities through photographs, print materials, and books;
4. allowing children without disabilities to explore adaptive equipment;
5. inviting people with disabilities to discuss their lives;
6. providing experiences that teach children about specific disabilities;
7. simulating problem solving situations that focus on children with and without disabilities;
8. carefully challenging children’s misconceptions and stereotyping; and
9. researching community-based adaptations to support accessibility.

In an investigation to validate a well-specified affective intervention for young children, Favazza and Odom (1997) demonstrated that a classroom-wide intervention package that included story time and guided discussions about children with disabilities, accompanied by structured play activities with peers with disabilities, was effective in improving children’s acceptance of peers with disabilities. Based on their study, Favazza and Odom (1997) recommended that interventionists who want to improve young children’s attitudes provide children with indirect experiences such as reading positive and realistic stories about children with disabilities, guiding discussions about people with disabilities, and making materials available that depict people with disabilities in a positive manner. In addition, they suggested accompanying direct experiences, such as structuring play activities with heterogeneous ability groups, when implementing affective interventions. Indeed, Odom and his colleagues (1999, 2001) have noted that integrated play groups may have positive effects on young children’s acceptance by peers.

Although Favazza and Odom (1997) implemented their intervention with kindergartners, we believe that their procedures can and should be adapted for younger children. Moreover, given that emergent literacy activities should be integrated into early childhood programs (Schickedanz, 1999), the use of stories, books, audio-visual, and other materials that positively depict peers with disabilities is a straightforward and reasonable classroom-wide intervention for young children (for specific procedures, see Favazza, Roe, Phillips, & Kumar, 2000). Nevertheless, young children’s understanding of peers’ varying abilities may not be sufficient to promote their social interactions with children with disabilities (Hestenes & Carroll, 2000). If practitioners have implemented DAP and inclusive early childhood services along with affective interventions to improve peers’ attitudes and their systematic observations of children across time.
have indicated that one or more children continue to have limited peer interactions, we have recommended the use of individualized peer interaction interventions, which will be discussed in the subsequent sections of this article.

**INCIDENTAL TEACHING OF SOCIAL BEHAVIOR**

Incidental teaching has been an individualized and naturalistic intervention for improving young children's behavior and development. For three decades, incidental teaching has been used to promote young children's language development (for reviews, see Hart, 1985; Kaiser, Yoder, & Keet, 1992), and it has been recommended as a strategy to improve young children's social behavior (Brown, McEvoy, & Bishop, 1991; Nordquist, Twardosz, & McEvoy, 1985). For example, McGee, Almeida, Sulzer-Azaroff, and Feldman (1992) employed incidental teaching as an intervention to improve peer interactions among young children with autism and their peers without disabilities in an inclusive preschool. Incidental teaching is a naturalistic intervention strategy and has been differentiated from teacher-directed instruction because it is employed during "unstructured activities for brief periods of time and typically when children have shown an interest in or have been involved with materials, activities, or others" (Brown & Odom, 1995, p. 40). Routine early childhood activities involving learning centers, outdoor play, meals, and transitions have provided excellent contextual conditions and opportunities for incidental teaching of social behavior. During incidental teaching episodes, interventionists have promoted children's peer interactions by providing adult models of social behavior or by encouraging peers to model appropriate social responses. In addition, educators have supported children's peer interactions by systematically prompting children to elaborate their social behavior (e.g., when the educator observes a child physically comforting a peer who is upset and prompts the child to also verbally express empathy or concern).

Episodes of incidental teaching of social behavior represent additional opportunities for children to learn new social responses or to practice and possibly elaborate previously acquired social behaviors during common school activities (Brown et al., 1991). For example, Scott, a 4-year-old child with disabilities and peer interaction difficulties, sometimes interacts with his peers during teacher-directed activities. Scott's teacher observes that during activities in learning centers or in other less structured situations, Scott rarely initiates interaction with his peers. Within the manipulatives center, Scott's teacher sees him watching LaShante play with wooden blocks. His teacher skillfully encourages him, "Remember how we ask others to share toys?" Scott looks at LaShante and moves closer while saying, "Me play?" LaShante says, "Sure, we can build a house!" while handing him some blocks. Scott and LaShante then co-construct a pretend house while talking and giggling. During typical preschool activities across several weeks, Scott's teacher continues to adeptly shape and scaffold his peer interactions whenever Scott shows an interest in activities or peers. She observes that Scott is beginning to ask peers to play without her suggestions. In addition, without teacher encouragement, peers are asking Scott to play with them more often during less-structured activities. In spite of Scott's disabilities, he has become socially engaged with his peers and is now included in many preschool activities. Helpful guidelines for using incidental teaching of social behavior are delineated in Brown et al. (1991).

In addition to serving as an intervention to improve children's peer interactions, incidental teaching of social behavior may serve another important purpose. Incidental teaching can be used to assess children's peer-related social competence and to determine whether children require additional, intensive intervention to promote social interactions (Brown & Odom, 1995). For example, if children with peer interaction difficulties fail to interact with peers during incidental teaching episodes with teacher support, it is unlikely that they will socialize with peers in less-structured activities. A clear absence of social responsiveness during incidental teaching episodes may indicate that more frequent incidental teaching of social behavior or other individualized peer interaction interventions may be required. Although incidental teaching has been shown to be effective in a number of language intervention studies and has been recommended as an intervention for children's social behavior (Brown et al., 1991), the empirical base for its use to improve peer interactions is rather limited (McGee et al., 1992; Nordquist et al., 1985). Nevertheless, we believe that incidental teaching of social behavior constitutes an important individualized intervention for young children with peer interaction difficulties. As suggested by our hierarchy, if incidental teaching is not sufficient to improve children's social behavior, additional individualized interventions such as friendship activities, social integration activities, and explicit social skills training may be necessary to promote and support children's peer interactions.

**Friendship Activities**

Friendship activities, previously known as "group affection activities" (McEvoy et al., 1988; Twardosz, Nordquist, Simons, & Botkin, 1983) and "group socialization procedures" (Brown, Ragland, & Fox, 1988), are individualized and naturalistic interventions for improving young children's peer interactions. As a group, friendship
activities have been differentiated from other peer interaction interventions because teachers adapt young children’s activities to promote social interactions by embedding prosocial responding in common early childhood songs, games, and activities (Brown & Conroy, 1997; Brown, Ragland, & Bishop, 1989). Antecedent and consequent strategies employed by teachers during friendship activities have included (a) encouragement of children’s peer interactions, (b) peer models of social behavior with opportunities for children to observe positive peer interactions, (c) rehearsal of prosocial behavior related to peer interactions, and (d) acknowledgment of and praise for children’s peer interactions. Specifically, teachers have encouraged children to make friendly statements, interact affectionately, compliment, smile, give encouragement, dance, share, and use other forms of prosocial behavior.

Although various friendship activities have been conducted in group contexts and have been embedded in common classroom activities, interventionists have employed them to provide specific children with individualized intervention to improve their peer interactions. In addition, participating peers receive teacher support for their social responsiveness to classmates with peer interaction difficulties. Friendship activities have been similar to activity-based intervention in that they (a) are teacher planned, (b) embed teaching opportunities within common activities, and (c) use logically occurring social antecedents and consequences to support interactions among children (Bricker et al., 1998). In addition to being easily implemented by teachers within classroom activities, friendship activities offer several advantages. First, when teachers implement friendship activities, they transform their classrooms into supportive contexts for encouraging young children’s peer interactions during common games, songs, and activities. Second, teachers promote children’s frequent rehearsal of important social behaviors during a variety of activities with multiple peers, which may encourage generalization and maintenance of newly learned or emerging social behavior to other peers and circumstances (Brown & Odom, 1994). Finally, similar to affective interventions to change children’s attitudes, friendship activities include guided discussions of the importance of social interactions and friendships, and those conversations may establish a supportive atmosphere for peer interactions and peer relationships.

Like incidental teaching of social behavior, friendship activities can provide additional teaching opportunities and opportunities for children to acquire new social responses or to elaborate or generalize previously learned social behaviors during common classroom activities (Brown & Conroy, 1997). Because friendship activities are conducted daily with groups of children for about 10 to 15 minutes and because they may require more teacher planning time (Brown et al., 1989), they typically provide more frequent peer interaction opportunities than incidental teaching. Hence, with respect to teacher planning and preparation, friendship activities may constitute a slightly more intensive intervention strategy than incidental teaching of social behavior. However, when incidental teaching has been employed extensively within all preschool activities throughout the daily schedule, the strategy has been a very intensive intervention that may require as much or perhaps more teacher planning and preparation than friendship activities (McGee et al., 1992).

We have encouraged the continuation of incidental teaching after friendship activities are initiated (Brown & Odom, 1995). Because friendship activities are teacher planned and include more adult support for children’s peer interactions, continuing incidental teaching of social behavior episodes may provide an important bridge for generalizing children’s social behavior to less structured and less adult-directed social situations.

As an example of a friendship activity, the children’s game Musical Chairs might be adapted to promote young children’s peer interactions (Brown et al., 1989). Musical Chairs may provide children with multiple opportunities to socially interact with peers or to observe others socially interacting with peers. Traditionally, Musical Chairs is played with children walking around chairs while music is playing. Teachers make sure that the number of chairs is one fewer than the number of children walking to the music during each turn of the game. When the music is suddenly interrupted, children quickly try to sit, but inevitably one of them is without a chair. The child left standing is “out” and has to sit and watch his or her peers play. As a friendship activity, however, a teacher might use each interruption of the music as an opportunity to have children positively interact with one another by making friendly statements, complimenting peers, or interacting affectionately. Although all children are participants in the game, skillful interventionists will strategically focus much of their encouragement and acknowledgment of social behavior on children whom they have selected for individualized intervention. With careful arrangement of the chairs, children who are out might sit within a circle of chairs and continue to play by socially interacting with peers who enter the circle when they are out. This modification ensures that all children, whether they continue to play or they sit out and watch, have multiple opportunities to socially interact with peers or observe others positively interacting. With guided discussions of friendship and many opportunities to interact, the classroom climate may become more supportive of peer interactions and more favorable for the development of peer relationships.

Several investigators have demonstrated the effectiveness of friendship activities in improving young children’s social interactions; specifically, researchers have
shown that friendship activities increase the frequency of children’s social interactions (Brown et al., 1988; McEvoy et al., 1988; Twardosz et al., 1983) and the duration of those interactions (Brown et al., 1988). In addition, investigators have demonstrated generalization to nonintervention free-play periods (Brown et al., 1988; McEvoy et al., 1988; Twardosz et al., 1983) and short-term maintenance of intervention effects (McEvoy et al., 1988). Helpful guidelines for using friendship activities have been delineated by Brown and his colleagues (Brown & Conroy, 1997; Brown et al., 1989).

Both incidental teaching of social behavior and friendship activities are naturalistic peer interaction interventions and are easily integrated into early childhood programs. Moreover, these two strategies have been shown to be socially beneficial to children who ranged in developmental abilities from those without disabilities to those with significant disabilities (e.g., autism, mental retardation). Nevertheless, for some young children with social interaction difficulties, incidental teaching of social behavior and friendship activities might not be sufficient to promote their peer interactions, and different individualized intervention strategies—which are more structured and intensive (at least initially) and which require more teacher planning and preparation than naturalistic procedures—may be needed to improve children’s peer interactions.

**Social Integration Activities**

Social integration activities represent another individualized peer interaction intervention, one that requires teacher planning and some level of special education expertise (Odom et al., 1988). Social integration activities have also been called environmental arrangements interventions (Odom et al., 1999) and PALS Centers (Chandler, 1998). The rationale for social integration activities is that the activities provide a systematic context for teacher and peer support for young children who have social interaction difficulties. Teachers arrange for children with limited peer interactions to be in direct contact daily for brief periods of time with children who are socially responsive and competent. In these supportive interaction contexts, children with social interaction difficulties (a) observe the socially competent play of peers, (b) participate directly in social interactions with children who have excellent play and peer interaction skills, and (c) establish a positive history of peer interactions (i.e., for children with limited social interaction skills play with peers may not have been very rewarding previously). The effectiveness of social integration activities depends on careful teacher planning so that activities enhance the probability that positive social interactions will occur among children.

Social integration activities consist of four basic components: (a) selecting children with social interaction difficulties and socially responsive and competent peers to participate in the activities, (b) implementing activities in defined play areas for brief periods of time (i.e., 5 to 15 minutes), (c) selecting activities that provide multiple opportunities for positive play experiences and peer interaction, and (d) introducing play themes and systematically encouraging children to socially interact with peers by using prompts and scaffolds.

To provide more detail of the process used for planning and implementing social integration activities, we will discuss the four components in greater detail. Teachers who implement social integration activities should plan play areas within their classrooms for specified, brief periods of time daily. The specific areas may change from day to day. For example, one day a social integration activity may be in the sociodramatic play area and the next day it might be in the sensory center. Children who are brought to the social integration activity spend about 5 to 15 minutes playing within the designated area. Limiting the available space so that children are in proximity to one another is an important feature of the social integration activities (Brown, Fox, & Brady, 1987). During social integration activities, unlike free-choice or free-play time, teachers thoughtfully select the children who will participate in the teacher-formed play group. Usually one or two children with disabilities who have peer interaction problems and at least two or three children who are socially responsive and competent with peers participate in the play group. When teachers bring the children to the play group, they make sure that children with social interaction difficulties are in proximity to socially competent children. Participants in the play group quickly learn that this group is as much a part of their daily routine as circle time or naptime.

To promote children’s peer interactions within the social integration activities, teachers preselect activities that provide multiple opportunities for social interaction. For example, Odom and his colleagues (1988) identified four types of high-quality play activities: functional activities, constructive activities, sociodramatic play, and games with rules. These activities were organized and implemented in a manner that promoted sharing, talking, assisting, and playing among children. Although all the social integration activities were interactive, fine-grained analysis of the four types of activities indicated that the sociodramatic play activities were the most supportive of peer interactions (DeKlyen & Odom, 1989). Teachers’ responsibilities for implementing social integration activities include planning, arranging, introducing, and monitoring activities with participants. The introduction includes suggestions to the children about how they might play with one another. In some activities such as making a birthday cake or playing doctor, teach-
ers might assign roles to children, while in others they might ask the children how they will play with their friends. After organizing and introducing activities, teachers withdraw partially from the play group and become monitors and supporters of children’s play and peer interactions. If children fail to talk, share, play, or interact with peers, teachers adeptly suggest a play idea, comment on the play with another child, or when indicated, directly prompt peers to play with other children. Nevertheless, given that the environmental arrangements of the activities (selection of participants, socially interactive activities, proximity, limited teacher support and monitoring) are the primary feature of the intervention approach, teacher participation to promote peer interactions should be used judiciously.

Several investigations have been conducted to determine the effectiveness of social integration activities (DeKlyen & Odom, 1989; Frea, Craig-Unkefer, Odom, & Johnson, 1999; Jenkins, Odom, & Speltz, 1989). For example, Jenkins et al. randomly assigned children to social integration activities and a child-directed cognitive intervention. For children in social integration groups, the investigators found more frequent peer interactions, higher language scores, and higher social competence ratings by teachers. In another study, Frea et al. (1999) counterbalanced the sequence of interventions and compared the social interaction of two children involved in friendship activities and social integration activities. They found that one child responded more positively to social integration activities, whereas the other child was more socially interactive during friendship activities. Frea and his colleagues speculated that children’s individual differences might have influenced differential results. In another study, Odom et al. (1999) compared a social integration intervention approach to three specific social skills training approaches, and although the peer-mediated and teacher antecedent approaches promoted more peer interaction, the social integration approach appeared to affect the sociometric status of children with disabilities more positively. Odom and his colleagues (1999) concluded that social integration approaches may have a more positive effect on child social status than peer-mediated and teacher antecedent social interaction strategies. For some children with peer interaction difficulties, however, more structured and more teacher-directed peer interaction interventions than friendship and social integration activities may be required. Hence, in addition to incidental teaching of social behavior, friendship activities, and social integration activities, interventionists should have explicit social skills training interventions in their inventory of peer interaction strategies.

Explicit Social Skills Training

During the last three decades, social competence researchers have developed and refined explicit social skills training interventions for young children with limited peer interactions (Goldstein & Cisar, 1992; McConnell, Sisson, Cort, & Strain, 1991; for reviews, see Brown & Conroy, 1997, 2001; McEvoy et al., 1992; Odom & Brown, 1993; for an explicit social skills training curriculum, see Odom & McConnell, 1993). Given that researchers have been concerned about fostering generalization of social behavior (transfer of social behavior to untrained peers or nontraining circumstances) as well as maintenance of social behavior after the termination of intervention (Brown & Odom, 1994; Chandler et al., 1992), investigators have begun to explore more intensive and pervasive peer interaction interventions. Explicit social skills training is characterized by relatively intensive training of specific social strategies such as “stay—play—talk with your buddy” (English, Goldstein, Shafer, & Kaczmarek, 1997) or prosocial leading, asking questions, commenting on play, and offering peer support (Mize, 1995). Other interventionists have directly taught specific social behaviors—such as sharing, persistence, requesting to share, play organizing, agreeing, and helping peers—to children with social interaction difficulties and to their peers without social competence problems (e.g., Odom & McConnell, 1993).

An example of a contemporary explicit social skills training intervention is the buddy skills-training program (English et al., 1997; Goldstein, English, Shafer, & Kaczmarek, 1997). English et al. (1997) implemented peer strategy-use training sessions to systematically teach peers without disabilities a sequential behavioral chain that included moving in proximity of children with peer interaction difficulties, saying children’s names, and maintaining proximity while talking and playing with them. Teachers served as “buddy coaches” and employed a “stay with your friend, play with your friend, and talk with your friend” (p. 233) instruction during training sessions across daily activities. A simple mnemonic of “stay, play, and talk” with your buddy was used in a standard training protocol that included (a) discussions, (b) adult models, (c) guided practice, and (d) independent practice with adult feedback. After peer strategy-use training and practice sessions, dyadic training was conducted with peers without disabilities and children with social interaction problems during three classroom activities (free play, snack, large group). The children with peer interaction problems were also taught a modified social strategy of stay and play with your buddy. Peer buddies who had short (about 1 minute) refresher sessions were used on rotating days to stay—play—talk with children selected for explicit social skills training. English and her colleagues (1997) showed that the strategy-use training and dyadic training improved social-communicative interactions (e.g., verbal requests, comments) of children both with and without disabilities. In contrast with a previous investigation (Goldstein et al., 1997), English et al. (1997) failed to obtain improved sociometric status of partici-
pants with peer interaction difficulties. Nevertheless, non-participating teachers who viewed pre-training and post-training videotapes rated the quality and quantity of children's peer interactions as improved following the buddy skills training.

Another example of an explicit social skills training program for young children has been *A Cognitive-Social Learning Curriculum* (Mize, 1995; Mize & Ladd, 1990). Similar to English et al. (1997), Mize (1995) recommended fundamental components for a peer-related social competence program: (a) social knowledge (child awareness of appropriate social goals and behavioral strategies; for discussion of children's social goals and behavioral strategies see Brown, Odom, & Holcombe, 1996); (b) performance proficiency (opportunities to socially respond to peers; cf. Brown & Conroy, 2001); and (c) monitoring and self-evaluation (discriminating peers' reactions to social interactions and modifying responses). *A Cognitive-Social Learning Curriculum* has several significant strengths. First, the curriculum was developed and field-tested with preschool children who had very low social status relative to peers (i.e., low sociometric status, limited peer interactions as indicated by direct observations). Second, with respect to curriculum content, Mize and Ladd (1990) focused on four critical social behaviors employed frequently by young children to initiate, maintain, and elaborate peer interactions: prosocial leading, asking questions, commenting on play, and offering peer support. Mize recommended that teachers carefully observe children and encourage additional peer social behaviors, particularly verbal behavior, that they have observed as promoting children's prosocial interactions. Third, similar to others (Goldstein & Cisar, 1992), Mize (1995) argued that many young children's peer interactions are "more script-based and automatic than reflective or thoughtful" (p. 241). A major implication of script-based social strategies has been the need for teachers to teach directly and systematically, to promote subsequent practice, and to provide systematic feedback to young children on their positive social behaviors, particularly those social responses that replace any maladaptive responding. To date, this curriculum has not been validated with young children with known disabilities; nevertheless, some of the strategies and behaviors recommended by Mize (1995) might be helpful in planning explicit social skills training interventions for young children with mild cognitive and language delays in inclusive early childhood programs.

For young children with significant disabilities and restricted repertoires of social and communicative behavior, more intensive explicit intervention than that provided by either a buddy skills-training program or *A Cognitive-Social Learning Curriculum* may be required. For example, Drasgow, Halle, Ostrosky, and Harbers (1996) showed the critical need for careful shaping of an initial sign repertoire to promote the basic communicative interactions of a young girl with severe disabilities. For young children with severe disabilities who do not interact positively with adults or peers, teachers may need to shape conventional or augmentative communicative behaviors (basic requesting, use of photographs or gestures to indicate needs and preferences) that will allow those children to socially participate in early childhood activities. At the same time, interventionists may need to teach peers to interpret less sophisticated, unconventional, or augmentative communicative interactions from their classmates with severe disabilities. After children with severe communication disabilities have acquired basic communicative functions (e.g., requesting, commenting) and initial social initiations and responses, it may be easier to promote their peer interactions by integrating incidental teaching of social behavior, friendship activities, social integration activities, and explicit social skills training within classroom activities.

**CONCLUSIONS AND PRAGMATIC USE OF THE HIERARCHY**

Many educators view young children's peer interactions and their emerging peer-related social competence as an important dimension of early childhood development. Nevertheless, existing information indicates that the implementation of effective peer-related social competence interventions in many early childhood programs has been limited. We believe that interventionists should be proactive in promoting young children's peer interactions and peer-related social competence. Our proposed hierarchy, which includes a continuum of interventions, provides interventionists with a practical decision-making process for fostering and improving young children’s peer interactions in inclusive early childhood programs. While implementing the classroom-wide and individualized interventions of the hierarchy, interventionists’ observations should allow them to evaluate whether more intensive intervention strategies might be needed to improve young children’s social interactions. Moreover, as interventionists promote more frequent and elaborate peer interactions, children’s peer-related social competence might be enhanced. Ultimately, with children's improved social interactions and enhanced peer-related social competence, children should begin to establish enduring peer relationships and friendships (Haring, 1992; Ladd & Coleman, 1993; Newcomb & Bagwell, 1995; Rubin et al., 1998).

We view the development of positive peer relations as a fundamental, programmatic goal for early childhood educators. Although we, along with many others, argue that young children with disabilities ought to receive services that adhere to DAP guidelines in inclusive early childhood programs, we also strongly believe that personnel in those inclusive programs should be prepared to adapt their curricular practices and, when necessary, to
use a variety of intervention strategies to assure that children’s individual developmental needs are being addressed effectively. Interventionists can enhance their development of appropriate, inclusive early childhood programs by drawing from the list of peer interaction strategies delineated in the hierarchy (or similar empirically validated interventions); the hierarchy will provide them with a functional array of peer-related social competence interventions that provide young children with additional opportunities to interact socially with peers.

Implicit in the proposed hierarchy is the viewpoint that interventionists should use peer-related social competence interventions that are only as intensive as necessary to promote peer interactions. Nevertheless, a recent investigation comparing social integration and friendship activities demonstrated that we might expect differential effects from different types of peer interaction interventions (Frea et al., 1999). The Frea et al. study reminds us that children’s individual differences (child characteristics, current competencies, interests) may influence intervention effectiveness and that we should be vigilant and pragmatic when implementing interventions. In addition, the differential results indicate the critical need for employing direct observation methods to evaluate the effectiveness of peer interaction interventions (Brown et al., 1996; Hestenes & Carroll, 2000; Mize, 1995).

We do not intend for the proposed hierarchy to be a lock-step sequence of peer interaction interventions. Indeed, we view it as a heuristic conceptual framework, which should be employed flexibly, with the ultimate goal of enhancing young children’s peer-related social competence. What matters is not whether a particular strategy is less intensive or more structured and teacher-directed than another; rather, the aim of the hierarchy is to help interventionists employ and, when indicated, adapt social interaction interventions to improve children’s peer interactions and peer relations. In most cases, the differences among the various intervention strategies presented within the hierarchy are in form and intensity (the amount of teacher planning and implementation time needed, teacher training required, the type of peer interaction opportunities) as opposed to function and purpose (to increase and enhance the number of opportunities to socially respond to peers). Systematic classroom observations should assist interventionists in determining which intervention techniques and accompanying accommodations are best suited for children served in inclusive early childhood programs.

Our pragmatic approach to determining the intensity of peer-related social competence interventions is similar to those of other researchers, who recognize that a variety of strategies, ranging in intensity from classroom-wide interventions (inclusion, DAP, affective interventions) to individualized and naturalistic approaches (incidental teaching of social behavior) to individualized and teacher-guided interventions (huddy skills-training programs), may be necessary for children with peer interaction difficulties. We sincerely believe that the strategic and adept use of the proposed hierarchy and its accompanying peer interaction interventions will provide interventionists with a range of effective options for promoting and supporting children’s peer interactions, peer-related social competence, and peer relations in inclusive early childhood programs. Moreover, we genuinely hope the hierarchy will assist interventionists in socially including young children with disabilities in those inclusive settings (cf. Brown et al., 1999; Odom & McEvoy, 1988). The ultimate usefulness of the proposed hierarchy for enhancing peer interactions will be determined by both its social validity—Do interventionists find it helpful and use it? (McConnell et al., 1992)—and its empirical validity—Does it improve interventionists’ use of effective interventions while improving children’s peer interactions and peer relations? (Smith, 1993). The utility of the proposed hierarchy will be determined by future efforts of researchers and practitioners.

NOTES

1. Throughout the manuscript, we employ interventionists as an inclusive, general term for teachers, consultants, and researchers.

2. Naturalistic teaching strategies are interventions that are implemented by practitioners within the context of routine classroom activities. These teaching strategies are characterized by systematic interventions that promote age-appropriate skills needed to participate in settings for children without disabilities. Naturalistic strategies are further characterized by practitioners using methods that are only as complex and as intrusive as necessary to improve children’s participation and development (for further discussion see Conroy & Brown, 1997; Noonan & McCormick, 1993; Rule et al., 1998).

3. Affective interventions are similar to the disability awareness and ability awareness activities discussed in the developmental disabilities literature.

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