

Developmentally Appropriate Practice in the Assessment and Intervention of Children's Peer Relations

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Recent advances in our understanding of children's peer relations have led to new models of assessment and intervention firmly rooted in developmental principles and practices. In this article, assessment and intervention efforts based on one contemporary approach to children's peer-related social competence are discussed in terms of their compatibility with developmentally appropriate practices for children without disabilities who are experiencing problems establishing productive relationships with their peers. In addition, children with Down syndrome serve as the reference group to illustrate how this model can be applied to children with disabilities. The extent to which this contemporary assessment and intervention approach can be carried out within the framework of developmentally appropriate practices while simultaneously addressing the special considerations presented by children with disabilities is examined.

Any debate concerning the application of developmentally appropriate practice (Bredekamp, 1987) to young children with disabilities must consider the fact that the traditional fields of early childhood education and special education constitute variations on a fundamental developmental theme. Both traditions are clearly and unalterably rooted in the basic science of child development, as are related applied fields, such as developmental and behavioral pediatrics (Guralnick & Richardson, 1980). One implication of the common foundation in child development for the disciplines of early childhood and special education is that developmental principles and processes, as well as associated environmental and biological influences, are relevant to our under-

standing of the development of children both with and without disabilities. Of equal importance is that educational approaches or practices that emerge from this shared developmental framework should be applicable to widely heterogeneous groups of children.

In fact, recent research continues to confirm that for the vast majority of young children with disabilities, particularly those with general (cognitive) developmental delays, the developmental perspective is indeed appropriate (Cicchetti & Beeghly, 1990; Hodapp, Burack, & Zigler, 1990). It is, of course, the case that important differences such as those involving information processing or expressive language emerge for certain groups of children with disabilities (Fowler, 1990; Weiss, Weisz, & Bromfield, 1986), but the similar developmental sequences, structure, organization of behavioral systems, and influences upon core aspects of development nevertheless provide a shared framework for all children.

Perhaps nowhere has this common developmental framework between the fields of early childhood and special education become more evident than in the domain of young children's peer-related social competence. From a child development perspective, it currently is generally agreed upon that the ability to establish appropriate and effective relationships with one's peers constitutes a critical developmental milestone for children during the preschool years, one that has important implications for children's cognitive, communicative, and overall social development (Guralnick, 1990b; Hartup, 1983). In the applied field of general early childhood education, children's ability to engage in social play with their peers has traditionally been accorded a central role, one which has been reinforced in recent position papers (Bredekamp, 1987; National Association for the Education of Young Children [NAEYC] and the National Association of Early Childhood Specialists in State Departments of Education [NAECS/SDE], 1991). Important goals for children in general early childhood education have included establishing productive and satisfying peer relations, a process that is closely associated with furthering the development of a child's independence and in generating feelings of self-efficacy. Correspondingly, the developmental significance of peer-related social competence is becoming increasingly recognized by early interventionists concerned with children with disabilities (Guralnick, 1990a; Odom, McConnell, & McEvoy, 1992).

In view of this convergence of views between early childhood and special education and the recognized centrality of child development principles, it is essential to consider recent research and theoretical

developments in the field of child development that have significant implications for assessment and intervention programs intended to facilitate children's peer-related social competence. Of particular interest is the development and systematic exploration of models that emphasize the interplay of dynamic and complex processes associated with the production of social strategies that vary in terms of their peer-related social competence (Guralnick, 1992a). Accordingly, in this article I will first describe an approach to understanding children's peer relations that reflects these new advances. This will be followed by a discussion of the extent to which both assessment and intervention approaches derived from this model are compatible with developmentally appropriate practices (DAP) as applied to nonhandicapped children in typical early childhood settings. In the final main section, this approach will be extended to children with disabilities, selecting for illustrative purposes the special problems exhibited by children with Down syndrome.

Advances in Understanding Children's Peer-Related Social Competence

Social Tasks and Social Strategies

In order to establish interesting, productive, and sustained interactions with peers, it is now apparent that young children must be able to contend with an array of *social tasks* such as gaining entry into peer groups, resolving conflicts, and maintaining play. Framing social interactions with peers in terms of social tasks gives meaning to the peer interaction process and is a central feature of recent approaches to children's peer relations and friendships (Dodge, Pettit, McClaskey, & Brown, 1986). Within the context of these social tasks, children utilize *social strategies* to gain their interpersonal goals (e.g., gain entry to an existing peer group, defend their possessions, or further develop a pretend play episode). Strategies themselves are complex social behaviors and differ substantially for each social task. For example, effective peer group entry strategies are typically characterized by establishing a frame of reference with host children and exhibiting synchronous and relevant social interactions (e.g., produce variations of hosts' nonverbal play; ask relevant questions [Putallaz & Wasser-

man, 1990]); effective conflict resolution strategies require a variety of conciliatory social exchanges (e.g., mitigate, provide alternatives, agree to peer proposals [Eisenberg & Garvey, 1981; Shantz, 1987]); and effective strategies for maintaining play involve social behaviors that sustain the role and activity structure of play as well as managing the escalation and de-escalation demands that frequently occur (e.g., remain within the theme or role of a designated play activity, disengage during a difficult period but remain in proximity [Gottman & Parker, 1986]). Contemporary thinking suggests that peer-related social competence is a direct reflection of the effectiveness and appropriateness of those social strategies that are utilized within the framework of specific social tasks (Guralnick, 1990b, 1992a). Consequently, to facilitate children's peer-related social competence, assessment and intervention within this framework of social tasks and social strategies are essential.

The Role of Processes

But these social strategies are themselves manifestations of more basic processes. It is difficult to conceptualize assessments and interventions simply as attempts to modify strategies, as these strategies are only surface features or products of far more complex and important developmental events. In essence, within this new approach, it is an understanding of those underlying processes that are responsible for children's selection and use of strategies during specific social tasks that can best serve as a *guide* to both assessment and intervention. In fact, it can be argued that significant, generalizable, and sustained changes in children's peer relations can come about only when interventions consider these underlying processes in the context of social tasks.

Although the identification, organization, and interrelationships among these processes are not yet completely understood, sufficient conceptual and empirical information is available to warrant presentation of a preliminary though comprehensive model. In many respects this model builds upon previous approaches, including Gresham's (1986) categorization of social competence problems into acquisition and performance deficits involving social skills and self-control issues. In a similar fashion, it is suggested that any contemporary model of peer-related social competence must consider a cognitive component,

an emotional component, and the interactions occurring between the two. This all must be characterized within a developmental framework, a feature that has been notably absent in most previous approaches (see Gresham, 1986, for discussion). It should be noted that the approach presented here is only part of a larger model that contains a family component as well as addressing the influence of other ecological factors. The model described below is an extension and refinement of previous work (Guralnick, 1992a, in press).

Specifically, three types of interrelated *processes* can be identified within the model. First, the *foundation processes* of emotional regulation and shared understanding must be considered. As suggested by the terminology, these two processes underlie the child's most basic abilities to engage in productive interactions with his or her peers. Second, in the selection of a social strategy in an exchange within the context of a social task, an array of *social-cognitive processes* are involved. The events within a turn in a social exchange inform us about how children think about social interactions. Third, *higher-order processes* are involved that are associated with the integration, organization, and sequencing of social strategies over many exchanges within a social task. The ability to recognize a social task and to sustain involvement utilizing past information constitutes the essence of this process. Finally, it must be noted that these three types of processes are not only interdependent but are themselves bounded and influenced by the general developmental profile of a particular child. As will be seen, it is this developmental perspective, involving cognitive, language, motor, and affective domains, that operates in conjunction with the three process domains to determine the effectiveness and appropriateness of a child's social strategies. Figure 1 illustrates the relationships among the components of the model.

Foundation Processes

The model proposes that the foundation processes of emotional regulation and shared understanding underlie a child's ability to engage in socially competent interactions with his or her peers. In fact, social-cognitive and higher-order processes themselves rely upon this foundation, thereby constituting an important limiting factor on children's peer relations. As with all processes, they must be thought of as being situation or social task specific, with assessment and intervention focusing on particular contexts.

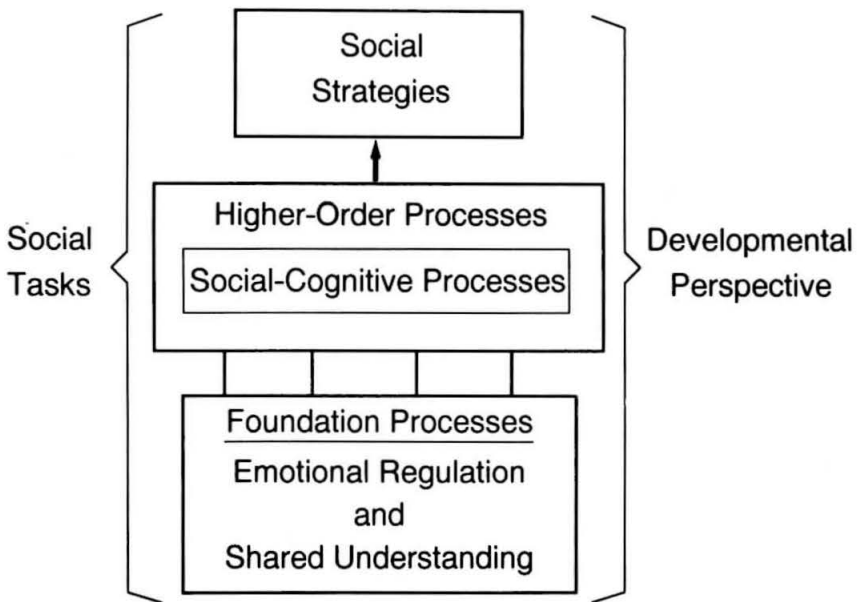


Figure 1. A model illustrating processes associated with the selection of social strategies.

Emotional Regulation. Social exchanges with peers inevitably give rise to emotional reactions such as anger, anxiety, or excitement, that must somehow be reasonably regulated in order for children to achieve their interpersonal goals in a socially competent manner (Dodge, 1991; Gottman & Katz, 1989; Maccoby, 1980; Sroufe, Schork, Motti, Lawroski, & LaFreniere, 1984). Numerous opportunities exist during peer interactions for children to experience both positive and negative emotions. Exclusion from a social group, rejection of attempts at peer group entry, loss of toys, encountering novel social situations, and the moment-to-moment conflicts that arise are frequently occurring sources of potential negative emotional arousal. Unless regulated in some fashion, these often stressful emotional experiences can be the source of negative and often inappropriate strategies, including aggression, threats, withdrawal, or general behavioral disorganization. It should be noted that strong positive emotions can also interfere with appropriate strategy selection such as when exuberant behavior spirals to a point where children begin to lose control (Sherman, 1975).

The susceptibility to emotional arousal and ability to regulate those emotions varies dramatically in young children. Strong genetic-physiological underpinnings have been documented for children who

tend to be inhibited (Kagan, Reznick, & Snidman, 1990), but even in this instance, inhibited interactions with peers tend to be more complex and are closely connected with historical factors (Asendorpf, 1990). Of course, early family patterns, including attachment relationships and associated parent-child interactions, clearly form the foundation for much of subsequent peer relations, especially aspects involving the regulation of emotions (Parke, MacDonald, Beitel, & Bhavnagri, 1988; Putallaz & Heflin, 1990). Whatever the source of emotional arousal, unless it corresponds to the intent of one's peers and is properly regulated in the context of social tasks, higher probabilities for selecting negative or otherwise inappropriate strategies result, as well as a corresponding reduced reliance on the context to evaluate the consequences of potential strategies.

Preventing the often inappropriate strategies that are associated with strong negative affect in particular from achieving their influence during social tasks constitutes a major challenge for young children. It also constitutes a challenge for researchers to understand more completely how this process occurs (Masters, 1991). Somehow children must, and usually do, regroup and refocus their efforts following, for example, rejection during peer group entry, and overcome the strong negative arousal that often accompanies this circumstance (Maccoby, 1980). This sequence of events emphasizes the dynamic, iterative, and long-term view (Asher, 1983) required of children in order for them to achieve their goals during social tasks.

Shared Understanding. Equally fundamental to the appropriateness and effectiveness of children's peer interactions is the foundation process referred to as shared understanding. This important process consists of a number of separate "understandings," all bound together by the fact that the connectedness of social exchanges (a component essential for appropriateness) depends on a mutually agreed upon framework. Most conspicuous is the shared understanding that results from agreements found during pretend play, a framework that serves as a rich resource for sustained peer interactions (Howes, 1988). A recognition of roles and expectations, sequences of events, and presuppositions that are established as part of pretend play themes fosters a smooth flow of social exchange. Even toddlers' peer play benefits from an implicit recognition of themes during more conventional play (Brenner & Mueller, 1982). Accordingly, the well-established developmental patterns corresponding to pretend play offer an important developmental framework for assessing this vital component of

shared understanding and include the structural complexity (Howes & Matheson, 1992) as well as the cognitive complexity of pretend play schemes (Casby, 1992; Beeghly, Weiss-Perry, & Cicchetti, 1989).

Similarly, shared understanding is enhanced through a common cognitive structure that arises to represent children's experiences of everyday events. Events related to dinner at home, cooking, birthday parties, or grocery shopping appear to be represented conceptually in the form of scripts (Schank & Abelson, 1977) and constitute important ways through which children organize their social-cognitive experiences. In essence, these scripts represent sequences and actions that are organized around specific social goals (Nelson, 1986). As a consequence, these event representations provide a structure and set of expectations for interacting around common everyday themes, thereby enhancing connectedness and forming a substrate of shared understandings that can be readily transformed into pretend play themes (Seidman, Nelson, & Gruendel, 1986).

A third element essential to achieving a shared understanding in the context of peer interactions is agreement regarding the social rules that govern exchanges. Rules of ownership are especially important (see Newman, 1978) and must be mutually understood by participants for an appropriate social strategy to result. As Garvey (1975) has noted, young children readily point out to their companion when they believe implicit rules have been violated, particularly in relation to the rights and the obligations of others.

Finally, it is important to consider young children's ability to recognize that others have independent intentions, knowledge, beliefs, and attitudes. At minimum, children must consider their companion's knowledge when selecting social strategies; a recognition that others can hold positions that differ from one's own is critically important (see Baron-Cohen, Leslie, & Frith, 1985; McTear & Conti-Ramsden, 1992). This latter ability establishes a shared understanding that these differences exist, thereby creating further opportunities for connected, appropriate social exchanges.

Social-Cognitive Processes

In this section, the processes involved when children go about selecting social strategies are considered. These processes, collectively referred to as social-cognitive, are best understood in the context of a specific turn in a social interaction that generates a social strategy.

These strategies, many of which occur as part of an extended social exchange within a social task, provide the observable behaviors that can be tracked across sequences. Nevertheless, each strategy is presumed to be governed in part by the social-cognitive processes discussed next.

Information processing approaches have been especially valuable in recent years by improving our understanding regarding how children think about solving problems within the context of social tasks (Dodge et al., 1986; Rubin & Krasnor, 1986). These models are particularly useful for considering how children select a social strategy at a point in time (usually a turn) during a series of extended exchanges. Despite differences in detail, information processing models propose a series of sequentially organized component social-cognitive processes that children utilize to achieve their interpersonal goals (Rubin & Coplan, 1992). Based primarily on the Dodge et al. (1986) model and using the peer group entry task as an example, these component processes consist of children first *encoding* relevant social cues in the situation (e.g., cues related to the nature of the activity) followed by *interpreting* those encoded cues (e.g., identify specific game or activity). Once this occurs, a series of possible *alternative strategies* is generated to attempt to gain entry to the group, perhaps including both intrusive (e.g., redirect game) and synchronous (observe and imitate peers' activity) strategies. Subsequently, the possible consequences of selecting each alternative strategy are *evaluated* and a selection then occurs.

An important implication of this model is that problems in any one or more of these component social-cognitive processes can alter the appropriateness and effectiveness of social strategies selected. For example, an inability to identify relevant cues will make it nearly impossible for children to establish an accurate frame of reference, and will thereby fail to select synchronous strategies for peer group entry; misinterpretations of the facial expressions of peers may result in perceptions of rejection when only postponement was intended; the child may have only a number of primarily negative alternative strategies available, consequently making successful resolution following initial rejection an unlikely occurrence; or a thorough understanding of the rules of possession may not exist when possible strategies are being evaluated, thus resulting in inappropriate strategy selection during peer group entry attempts. It follows from this model that an assessment of each of these social-cognitive processes must occur in the context of social tasks, and corresponding interventions should be guided by knowledge of a child's specific profile on these components and other major processes.

This evaluation process is especially critical, for in order for the strategies selected to be both appropriate and effective (the two key aspects of peer-related social competence), a consideration of the foundation process of shared understanding by the interacting children is required. This shared understanding includes mutual agreement regarding the activity engaged in as well as agreement as to the roles of the participants. Of equal importance, it also includes a common understanding of underlying rule structures governing turn taking and possession. Failure to recognize these "meaning factors" (Garvey, 1975) inevitably results in conflict and communicative difficulties, and certainly adversely affects perceptions of children's social competence by their peers. In fact, not only does shared understanding influence the social-cognitive process of evaluation, but it can also affect the other components as well. Specifically, poorly developed representations of events, including everyday activities, will likely make it more difficult for the child to encode the appropriate activity cues, to interpret the information in a way that fits the appropriate script, and to thereby generate specific alternative strategies that are connected to particular social exchanges.

In a similar way, the extent to which children experience emotional arousal and the consequent need to regulate that arousal is thoroughly interrelated with social-cognitive processes (Dodge, 1991; Guralnick, 1992a). In fact, these interrelationships often conspire to maintain previously established tendencies toward experiencing emotional arousal during interactions with peers, and frequently potentiate their effects. For example, some children may be biased toward detecting social cues that produce emotional arousal, a process that is probably mediated by attentional mechanisms associated with the Dodge et al. (1986) encoding component. Similarly, the ambiguity of many social cues and social situations could lead some children to interpret cues that would increase emotional arousal, such as when benign but ambiguous social actions by peers are interpreted as provocations. Moreover, in addition to influencing mechanisms involving encoding and interpreting, the absolute or threshold levels of systems that govern emotional arousal may vary substantially among children. Many young children become extremely inhibited in novel or uncertain circumstances, including those involving social interactions, thereby preventing them from engaging in productive social play and setting into motion long-term exclusionary interactive patterns. Threshold differences in clinically hyperactive children have been noted as well, as arousal patterns are easily triggered in these children (Campbell, 1990).

In general, difficulties in emotional regulation may result in disorganization and withdrawal for some children or rapid responding in others. In either instance, inappropriate and ineffective strategies are the likely result even though many of these children have alternative appropriate strategies available to them and could have proceeded to evaluate those alternatives in a reasonable way. Concerns also exist regarding the relative absence of affective experiences (high threshold) (Sroufe et al., 1984).

Higher-Order Processes

The long-term perspective of social tasks and the interrelationships between social-cognitive and emotional regulation processes make it apparent that an additional process must be considered. Specifically, a higher-order process must be involved that integrates, organizes, and sequences social behaviors over the course of social tasks. For this to be realized, some planned activity that corresponds to the social task at hand (i.e., task recognition) must occur in conjunction with a mechanism that provides guidance and direction to the component processes that yield a particular strategy. The behavior of peers must be monitored, past information incorporated into subsequent social exchanges, and the goal of the social task must be maintained over time. In the literature on cognitive development, these higher-order processes are often referred to as executive functions, and a variety of models have been developed that characterize how these processes operate (e.g., Sternberg, 1987). Even for preschool children, executive processing emerges as a factor that is separate from intelligence as conventionally assessed (Casey, Bronson, Tivnan, Riley, & Spenciner, 1991). Although conceptualized primarily for nonsocial problem-solving tasks, executive functions are clearly relevant to solving problems within the framework of social tasks and must be considered as part of any assessment and intervention system for children's peer relations.

It is important to point out as well that social-cognitive processes can be conceptualized as being embedded within higher-order events. It is the higher-order processes, such as monitoring a peer's responses, that provide additional information for selecting specific social strategies.

Developmental Perspective

The elements of shared understanding, particularly in relation to its role as a foundation process, emphasize the importance of a developmental perspective for children's peer relations. A child's cognitive development is most relevant to the foundation process of shared understanding. In addition, the domains of language, affective, and motor development also influence and constrain all of the processes involved in children's peer-related social competence. Contemporary models of peer relations must respect the individual developmental profiles of children, recognize their influence on foundation, social-cognitive, and higher-order processes, and consider adaptations that are needed for designing intervention programs.

Developmentally Appropriate Practice and the Facilitation of Children's Peer Relations

In the previous section, a contemporary approach designed to understand young children's peer-related social competence was described. Social tasks, a developmental framework, and three types of interacting processes constitute the critical features of the model. In the following section, the extent to which practices considered to be developmentally appropriate are compatible with this approach to children's peer relations is examined for children typically encountered in regular early childhood settings. The third and final major section discusses this approach in relation to children with established disabilities.

Magnitude of the Problem

Unfortunately, perhaps as many as 10% of children with disabilities in regular early childhood programs experience substantial difficulties establishing peer relations and developing friendships (Asher, 1990). The persistence of these peer interaction problems into the later years and their adverse long-term consequences have been well documented (Parker & Asher, 1987). Moreover, the prevalence of peer interaction difficulties is likely to continue to increase as a direct consequence of the growing number of families under enormous emo-

tional and economic stress. The manifestations of these stresses, which include family-child interaction problems (Booth, Rose-Krasnor, & Rubin, 1991); child maltreatment (Alessandri, 1991); exposure to toxic substances, such as lead during infancy and early childhood (Laughlin, 1986); prematurity and low birthweight (Bennett & Guralnick, 1991; Ross, Lipper, & Auld, 1990); and the damaging effects of maternal drug and alcohol abuse during pregnancy (Streissguth & LaDue, 1987; Zuckerman & Bresnahan, 1991) are certain to alter the quality of peer-related social competence in young children in regular early childhood programs. In fact, the often subtle nature of many of these problems causes them to go undetected in more structured and predictable situations, such as those involving responsive adults, but they become apparent in the typically unstructured and unpredictable world involving peers.

For those children who do not exhibit established developmental disabilities but who are experiencing problems in relating with their peers, difficulties in processes associated with emotional regulation are most likely to be adversely affected. The disorganization of social behavior or the withdrawal from social interactions that characterizes the behavior patterns of many children have been well documented (Asendorpf, 1991; Meichenbaum, Bream, & Cohen, 1985; Reznick, 1989), as has the social rejection that accompanies children's inability to manage anger and other negative emotions during play (e.g., Campbell, 1990; Dodge et al., 1986). But processes other than those associated with emotional regulation can be affected as well. Selective attention is a key component of social-cognitive processes (encoding) and is readily susceptible to disruption by an increasing number of children. Consequently, it is less likely that cues relevant to the social situation will be encoded, a problem that is often accompanied by a failure to evaluate the consequences of selecting particular strategies during social tasks (Barkley, 1990). In addition, the experientially impoverished backgrounds of many young children create additional difficulties by limiting a shared understanding for peer interactions.

In view of the magnitude, developmental significance, and long-term adverse consequences of problems in children's peer-related social competence, it seems reasonable to suggest that educators in general early childhood programs must be proactive in this domain. But being proactive typically implies consideration of some form of *intervention* that is designed to alter the conditions or processes associated with those uniquely personal, everyday interaction patterns that we refer to as children's peer relations. Yet when direct intervention focusing

on children's peer-related social competence is suggested, concerns are often raised in the early childhood community that we risk failing to be consistent with practices considered to be developmentally appropriate. Admittedly, there is and should be a reluctance to tamper with a highly personal process that is so central to learning and development in general, as well as so dependent upon naturally occurring experiences. Moreover, there is every reason to believe that the flow of social events and interaction patterns that are encouraged in highly stimulating, well-equipped, and well-prepared environments staffed by knowledgeable and caring early childhood professionals tend to exert a press for growth and development in critical aspects of young children's play and social development with their peers.

This reluctance to attempt to systematically alter the nature and course of peer interactions in the context of well designed early childhood programs is an important issue, and those considering intervention must be sensitive to these concerns. However, it can be argued as well that systematic, planned, and sometimes directive efforts to assist children to improve their peer relations *within the contemporary developmental framework of peer-related social competence described in the previous section* constitutes part of a process that is, in fact, entirely compatible with the premises, goals, and practices considered to be developmentally appropriate. This critical issue is examined next using the Bredekamp (1987) article published by the NAEYC, the reference document for developmentally appropriate practices. Page numbers in parentheses refer to that publication (see Note).

Compatibility of Developmentally Appropriate Practices and Contemporary Approaches to Peer Relations

Goals and Priorities. Facilitating children's peer-related social competence can be considered to be a legitimate and high priority within early childhood education programs employing developmentally appropriate practices, as enhanced competence provides children with the tools to gain their interpersonal goals in an appropriate and effective manner (Guralnick, 1990a). Accomplishing peer-related goals in a competent fashion works ultimately to improve children's independence and feelings of self-efficacy—major goals associated with developmentally appropriate practices (pp. 54–55). In fact, assisting children to select and carry out social tasks in particular provides a means for

conceptualizing the important developmental processes of establishing self-initiated social play activities (p. 3). Similarly, fostering social skills, including social strategies such as negotiating during a dispute, is an important means of facilitating children's social-emotional development—another high priority within a framework designed to be developmentally appropriate (p. 55).

As both social and nonsocial play constitute major vehicles for encouraging developmental growth in numerous domains as part of developmentally appropriate practices, (p. 3), it is evident that improvements in child-child social interactions can be of value. Child development research suggests that both the quality and the creative aspects of play can be enhanced through the involvement of peers (Rubin, Fein, & Vandenberg, 1983). In addition, developmentally appropriate practice emphasizes the integrated nature of learning and development (p. 3). Peer-related social competence is, of course, entirely consistent with that emphasis, requiring the integration of skills and abilities from a variety of developmental domains (Guralnick, 1990a). As noted, the model discussed earlier based on contemporary developmental approaches is clearly integrative by design, culminating in children's selections of social strategies.

Finally, as described earlier, a focus on social strategies, social tasks, and underlying processes associated with children's peer-related social competence derives directly from recent advances in research and theory in the field of child development (Guralnick, 1992a, in press). Because a major determinant of both the quality of an early childhood program and the degree to which it is developmentally appropriate rests on “. . . the extent to which knowledge of child development is applied in program practices” (Bredekamp, 1987, p. 1), it is apparent that no incompatibility exists if contemporary models of peer-related social competence help guide early childhood practice.

Assessment and Planning. The recently developed Assessment of Peer Relations (APR) (Guralnick, 1992b) provides a basis for evaluating developmental patterns associated with young children's foundation, social-cognitive, and higher-order processes within the context of social tasks. Because this assessment instrument relies extensively on observational and descriptive information of children's naturally occurring interactions with peers, and is intended purely to assist teachers or resource personnel to plan programs in the area of peer interactions, this approach appears to be consistent with developmentally appropriate practice (pp. 12-13). In fact, a portion of this

assessment contains a component that helps staff to evaluate relevant environmental and social factors in the classroom, including child-preferred play themes, activities, and materials, as well as preferred playmates, in order to maximize the interest value and to encourage the highest quality of social play possible. This emphasis on individual preferences and responsiveness to a child's unique interests is, of course, an important element in any early childhood program (pp. 7, 54).

The APR is divided into two major sections. The first focuses on the overall developmental characteristics of children's peer relations. Information derived from this section permits a determination of a pattern of strengths and concerns related to the foundation processes of shared understanding and emotional regulation. It also guides the user to consider the role of the child's profile in the domains of cognitive, language, affective, and motor development as they relate to peer interactions. Components assessed include the child's tendency to initiate interactions, the purposes of those interactions, the responses of peers to their efforts, the extent of social participation, especially involvement in various levels of complementary and reciprocal play, and general patterns of emotional regulation, the latter including tendencies to become anxious, rejecting, hostile, vacillating, delaying expressions of emotion, impulsive, or disorganized. Similarly, the child's ability to communicate information during play is evaluated, including the variety of language forms available. Information relevant to the foundation process of shared understanding is also cast firmly within a developmental framework. Levels of pretend play, including schema complexity, are prominent categories as are common roles and themes and knowledge of basic social play rules. This information establishes important parameters for the design of intervention programs.

The second major section of the APR is organized in terms of the social tasks of peer group entry, conflict resolution, and maintaining play. Within this framework, specific social strategies children employ, both initially and over the course of the task, are observed and categorized. For example, strategies associated with peer group entry that pose difficulties for a child would include those not relevant or synchronous to the ongoing activity of one's peers, the use of intrusive strategies, the tendency of the strategy to be disagreeable, or a lack of persistence. It is from these observations of children during social tasks that additional information relevant to emotional regulation and shared understanding is obtained. These same observations

also permit evaluations of the components of social-cognitive and higher-order processes. The assessment culminates in the observer identifying special considerations that must be addressed for the three types of processes (foundation, social-cognitive, higher-order) framed by each of the three social tasks. Combined with general information on shared understanding and the developmental profiles obtained in the first section of the APR, it is these special considerations that provide specific guidance for the development of intervention programs.

Deciding whether a child may require special attention in the area of peer relations is a difficult and complex process. The APR is strictly a clinical tool and is of no value in this regard, as the scale is not designed to yield psychometric information. In fact, it is argued that this decision must be based on numerous sources of culturally relevant information (e.g., from teacher and parent reports of concerns that are based on observations of the child over extended periods of time in a variety of settings, as well as from information derived from the proper administration and interpretation of formal tests or checklists where appropriate). Once this occurs, the APR can be applied as needed. This approach to developmental evaluation is clearly compatible with developmentally appropriate practices (pp. 12-13).

Intervention and Structure. It is, however, in the domain of intervention in children's peer relations that conflicts with what is considered to be developmentally appropriate practice are most likely to arise. Intervention in traditional special education practice, in particular, has often prescribed or implied a level of externally imposed structure that has frequently been perceived as intolerable within developmentally based early childhood programs. Although important changes are occurring (see Bricker & Cripe, 1992), this remains an important and persistent issue.

Yet it is certainly not the case that developmentally appropriate practice prohibits planned, *proactive* forms of intervention in the broadest and most positive sense of the term. On the contrary, developmentally based practices encourage adults to facilitate children's play, particularly when children are having difficulty (p. 7). Because the range of children's developmental levels usually exceeds extensively their chronological ages in heterogeneous preschool and day care programs, it is clear that developmentally based techniques must not only arrange the physical environment (furnishings, materials, equipment) to accommodate to these levels of diversity, but also adapt teaching strategies to meet the complex needs of young children (p. 4). Unquestionably,

active teacher involvement is the key to an effective program, and it is well within guidelines for developmentally appropriate practice to encourage teachers to assist children to cope with troublesome emotional experiences and difficulties in regulating their emotions (pp. 10–11). As noted previously, the process of emotional regulation exerts a substantial influence on a child's selection of appropriate and effective social strategies. Moreover, facilitating, modeling, guiding, redirecting, and helping to establish a shared understanding involving classroom rules, especially within the framework of conflict resolution and stress reduction, are all aspects of quality preschool program practices that are considered developmentally appropriate (p. 11). Clearly, systematic intervention in children's peer relations may not only be essential for a significant number of children in typical early childhood settings but also, in principle at least, can be carried out within a developmentally based framework as well.

In view of this, it can be said that a challenge exists in the area of children's peer relations for those adhering to developmentally appropriate practices to accommodate to the contemporary approach suggesting that children can benefit from interventions guided by an understanding of the processes that govern peer-related social competence. It is this *understanding* of processes rather than an attempt to "train" processes per se that is central to intervention. The special considerations summary of the APR is one attempt to provide a rational framework for establishing priorities utilizing the process approach and for developing a comprehensive intervention program. In essence, the assessment serves to organize the planned interventions.

Specifically, assessment information is used to maximize the participation of the child in social play with peers and to design adaptations of the social and physical environment to accommodate the child's identified special considerations. Efforts are typically directed to first build upon and expand foundation processes. This clearly requires adult and/or child structuring of activities and also requires arranging the social and physical environment to take advantage of natural motivational tendencies to guide and encourage children in a manner that enables self-initiated and spontaneous child-child social exchanges to evolve. For example, an array of intervention strategies and techniques are available from a variety of disciplines in connection with emotional regulation, such as methods for anger control (Guevremont, 1990; Hinshaw, Henker, & Whalen, 1984). Similarly, shared understanding can be fostered through the application of intervention procedures directly related to the use of scripts (DeKlyen & Odom, 1989;

Nelson & Seidman, 1984). For other components, adaptations are made to specific social-cognitive processes that may be affected, such as by enhancing the saliency of cues in activities related to peer group entry tasks. The intent here is to facilitate encoding of relevant information to increase the likelihood that the child will select an appropriate social strategy.

Children with Disabilities

If this analysis is correct, the application of contemporary developmental models to address difficulties in the peer relations of otherwise nonhandicapped children can occur in a manner consistent with developmentally appropriate practices. The question that now arises is the extent to which this model can be applied to children with established disabilities. This is an especially important issue, as it has now been well documented that a substantial proportion of young children with developmental disabilities manifest significant problems in peer-related social competence (Guralnick & Groom, 1985, 1987; Guralnick & Weinhouse, 1984). This peer interaction deficit is particularly apparent for young children with general (cognitive) developmental delays, a group that includes children with Down syndrome (see Guralnick & Bricker, 1987). Because of the relatively high prevalence and visibility of children with Down syndrome, and because much is known about its biologic basis and developmental course, children with Down syndrome will serve as the reference group for this discussion.

As noted in the introductory section of this article, evidence continues to confirm the concept that the development of children with developmental delays (particularly children with Down syndrome) can be readily understood within the principles and processes that characterize general child development. In particular, there exist many similarities between young children with Down syndrome and developmentally matched groups of nonhandicapped children in terms of adult-directed pragmatic and conversational skills (Beeghly, Weiss-Perry, & Cicchetti, 1990), as well as nonverbal, although routine, skills in social interactions with adults (Mundy, Sigman, Kasari, & Yirmiya, 1988). In addition, the thematic representational or symbolic play of children with Down syndrome, despite certain problems in terms of its repetitive nature, parallels that of developmentally similar groups of nonhandicapped children (Beeghly et al., 1989). These and other

similarities suggest the potential for children with Down syndrome to engage in productive peer relations governed by similar developmental processes. Moreover, and of greatest significance, is that we can anticipate that precisely the same foundational, social-cognitive, and higher-order processes associated with peer-related social competence that affect children without disabilities will also be relevant to children with Down syndrome.

But, of course, numerous issues of concern exist, characterizing children with Down syndrome as a group, that are likely to adversely affect these processes, and consequently diminish the peer-related social competence of these children. Particularly important are problems experienced in the domain of grammatic-syntactic development (Fowler, 1990; Miller, 1987), slower processing of information (Lincoln, Courchesne, Kilman, & Galambos, 1985), unusual difficulties in self-initiating and organizing activities (Beeghly et al., 1990; Mundy et al., 1988), specific deficits in verbal coding and decoding (Gibson, 1992), lower arousal (Cicchetti & Sroufe, 1976, 1978), and problems in integrating social with nonsocial activities or scanning or monitoring the social environment (Kopp, 1990; Krakow & Kopp, 1983).

It is these developmental concerns for children with Down syndrome, even in view of extensive individual differences, that are likely to influence virtually all the processes associated with children's peer-related social competence. For example, in the domain of social-cognitive processes, problems in encoding and interpreting complex social information are likely to be especially serious, and children with Down syndrome typically fail to produce alternative types of strategies in related tasks (Kopp, Krakow, & Johnson, 1983). Similarly, the ability of children with Down syndrome to evaluate the consequences of their strategies for a specific social task in the context of shared understanding is also certain to be an issue of concern (Kopp, 1990). In addition, unusual difficulties in emotional responsivity and modulating emotional states can pose significant threats to emotional regulation processes (Cicchetti, Ganiban, & Barnett, 1991)—a problem that is likely to influence both adult-child and child-child interactions.

Compatibility with Developmentally Appropriate Practice and Children with Disabilities

Consequently, as is the case for children without disabilities, a clinical tool such as the APR that helps us understand the processes

associated with children's peer-related social competence and that is rooted within a contemporary developmental framework can be of value for children with Down syndrome as well as other children with disabilities. Interventions can take advantage of the strengths of children with Down syndrome in representational play, adult-child social/communicative interactions, and general interest in social activities, as well as relative strengths in imitation and visual-spatial play (see Guralnick, in preparation). Reliance on this and related information based on observations of individual children can serve to organize the design of intervention programs that parallel those for children without disabilities but who are experiencing problems in child-child social interactions. Techniques involving coaching, the use of vignettes and scripts, and an emphasis on encouraging the child with Down syndrome to participate in small, predictable groups in high-interest activities are all likely to be important components of an intervention program. As discussed earlier, this assessment and intervention approach appears to be consistent with developmentally appropriate practices.

Nevertheless, because of the extent and severity of the peer interaction problems for children with Down syndrome and related disabilities, somewhat greater structuring of activities or adult involvement may be required, at least initially. However, these are quantitative, not qualitative, differences in approach. There is also the potential for children with disabilities to warrant more extensive and systematic planning and accountability activities than might typically be needed, but once again, these differences can be seen simply as extensions of existing developmental curricula and teaching strategies. Similarly, the special characteristics common to many children with Down syndrome will be a challenge for staff in many programs and may require additional support and consultation. For example, staff may have both experience and expertise in addressing how expressive language delays in young children affect peer relations, but may need assistance when confronted by the severity of grammatic-syntactic problems exhibited by children with Down syndrome.

But just as consultation with a mental health professional may be needed for children who display persistent and severe emotional regulation problems, consultation with specialists, particularly those trained in early childhood special education, may be necessary to assist staff in inclusive general early childhood programs when planning and implementing activities for certain children with Down syndrome or those with similar disabilities. Well-established techniques are avail-

able to facilitate development in the domain of peer relations that are appropriate for children with severe expressive language problems, those who involve themselves in repetitive, stereotypic play, children with limited verbal comprehension skills, or those with behavior problems that significantly interfere with their interactions with peers. Viewed in this perspective, collaborating with consultants within a broad child development framework is likely to enhance developmentally appropriate practices for all children.

Conclusions

Establishing relationships with one's peers during the preschool years is a vital but often difficult process for many children with and without disabilities. Even though this process appears to be especially vulnerable to disruption by biologic and environmental factors, the general developmental model provides perhaps the most meaningful framework for understanding the nature of peer relations for all children. Correspondingly, contemporary developmental models of children's peer relations, including the specific processes that ultimately govern the selection of effective and appropriate social strategies, also appear to be applicable to children with and without disabilities. Although children with different developmental histories will vary substantially in terms of the assessment profiles for the types of peer intervention processes identified in this article, these special considerations nevertheless provide a valuable framework to guide assessment and intervention for all children. Moreover, and of considerable significance, an argument has been developed suggesting that contemporary models in the domain of children's peer relations are consistent with practices considered to be developmentally appropriate and are applicable to children with and without disabilities.

Despite a strong developmental data base and some encouraging results employing a process-directed intervention approach (Mize & Ladd, 1990), the usefulness of the model presented in this article for both assessment and intervention remains to be determined. A creative array of intervention techniques has been developed over the years (see McConnell, McEvoy, & Odom, 1992), usually yielding important but often limited improvements. Whether the developmentally based model proposed here can help organize and direct existing interventions in a more effective way and serve as a catalyst for the development of new approaches are important questions for future research.

Note

The more recently published "Guidelines" (NAEYC & NAECS/SDE, 1991) should also be consulted. Special note should be given to discussions on pages 27 and 32 regarding the value of play in terms of social competence as well as assessment guidelines. However, all references in this paper are based on the 1987 article.

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