Baltimore: University Park Press. (pp. 165-170)

RESEARCH TO PRACTICE IN MENTAL RETARDATION
Care and Intervention, Volume I
Edited by Peter Mittler

EARLY CHILDHOOD INTERVENTION
Nonhandicapped Peers as Educational and Therapeutic Resources

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The principles of normalization and mainstreaming have provided a conceptual framework for the integration and reintegration of handicapped people into schools and society in general. This process has also set the occasion for renewed interest in the roles that peers can play in fostering the development of handicapped children. Interestingly, much of the research regarding the developmental aspects of peer interactions has occurred at the preschool level. In part, this reflects the fact, as Wolfensberger (1972) indicated, that integration in early childhood programs would be relatively easy because these programs typically tend to be flexible and individualized, as well as consisting of children of various ages and sizes. He further noted that "particularly at this age level, normal peers seem to constitute nonthreatening models from which the handicapped (especially the retarded) children learn much more than they typically do from their impaired 'peers' " (p. 51).

The importance of peer influence in the normal course of events, especially as a socializing agent, has certainly not gone unrecognized (Hartup, 1970). Nevertheless, the recognition that peers can act systematically as agents of change in conjunction with therapists, teachers, experimenters, and the like, particularly with regard to their less advanced peers, has been a more recent phenomenon. Perhaps the most critical point to have emerged from an analysis of this process is that in order for nonhandicapped peers to effectively function as educational and therapeutic resources for those who are handicapped, carefully planned interactions are essential (Guralnick, 1976).

The purpose of this chapter is to review some of the underlying concepts and major findings in this area. Primary concerns will be: 1) the development of social interactions of handicapped children as a result of assistance by nonhandi-

capped children, and 2) an examination of the nature of linguistic interactions among children at various developmental levels and the potential for facilitating language development in less advanced children.

SOCIAL INTERACTION

Reciprocal social interactions among young children as well as the quality of their interactions with play materials is closely linked to a variety of personality, cognitive, and affective factors. Teacher demonstrations, reinforcement procedures, and a variety of environmental manipulations have all met with some success in promoting social development in handicapped children, but clear limitations have also been evident. In this regard, Bricker and Bricker (1971) have suggested that nonhandicapped children may well function more adequately than teachers as models for delayed children in the area of social play.

Empirical support for this notion was obtained in a study by Devoney, Guralnick, and Rubin (1974) that demonstrated that the introduction of nonhandicapped peers into a play situation resulted in a marked positive change in the frequency and quality of play among handicapped children. Of importance, however, is that this only occurred when the teacher systematically structured a variety of activities. Moreover, it was noted that, probably as a direct result of the integration experience, the handicapped children engaged in a much more sophisticated and organized type of play than had ever previously been observed. In fact, this play often seemed to be an abbreviated form of the complex interactions displayed by the nonhandicapped children.

A systematic follow-up of this work by Guralnick (1976) demonstrated quite clearly the potential value of nonhandicapped children as a resource. Focusing on specific handicapped children whose play and social interaction skills were poorly developed as measured by the Parten (1932) scale, the aid of two nonhandicapped peers was enlisted in an attempt to promote more productive play. Following the lead of Wahler (1967), training sessions were provided for the nonhandicapped children using role playing and verbal descriptions in an attempt to teach them to model appropriate play and to selectively attend to the handicapped child's appropriate behavior. This technique produced a substantial effect. After a few sessions with all three children playing in one area (systematically replicated across materials and children), the handicapped child's solitary and resistant play had been replaced by play mostly of an associative and cooperative nature. In addition, the frequency of positive verbalizations to peers greatly increased and corresponded to the increase in higher level play.

A detailed analysis of the interactions here revealed that two mechanisms appeared to be operating. On the one hand, the more advanced peers provided models for appropriate behavior. The second mechanism consisted of the systematic use of social and activity consequences for appropriate behavior by peers. This technique, in conjunction with modeling, has proved to be an extremely powerful treatment in positively affecting the social play behavior of handi-

capped children. It is important to note, however, that modeling alone appears to be insufficient in producing change in children in this situation, especially those with relatively severe deficits (Guralnick, 1976).

Accordingly, available evidence indicates that whether one achieves success here or not appears to depend on the systematic way in which grouping and instruction take place. We know from other work that these interactions among children at different developmental levels do not occur spontaneously (Ray, 1974), with the consequence that careful planning and arranging of events are prerequisites for success.

LANGUAGE INTERACTIONS AND THE LINGUISTIC ENVIRONMENT IN INTEGRATED SETTINGS

As noted above, an increase in social play interaction among children at different developmental levels produced a corresponding increase in positive verbalizations. In addition, it has been demonstrated (Guralnick, 1976) that nonhandicapped peers' speech can influence certain characteristics of the speech of handicapped children. In particular, for handicapped children whose linguistic competence exceeds their usage, the salient reinforcement by teachers of a nonhandicapped child's extended and grammatically complete speech can result in more advanced speech by the handicapped child. Although there are many possible explanations for this, Kazdin's (1973) suggestion that reinforcement in these circumstances serves as a discriminative stimulus identifying those behaviors that will be reinforced seems most plausible. In addition, this concept may provide important implications for modeling and vicarious reinforcement effects among children at various developmental levels.

Observational data have revealed that the social and linguistic environments of handicapped children are quite different in settings consisting of children at various developmental levels, especially those including nonhandicapped peers, than in settings consisting entirely of a more homogeneous group of handicapped children. A recent investigation by Guralnick and Paul-Brown (1976) was carried out to examine more carefully the nature of the linguistic interactions that exist among handicapped and nonhandicapped preschool children. This study was prompted by the recognition of the importance of the linguistic environment in the development of the language-learning child. More particularly, it was designed to examine the way in which nonhandicapped children address handicapped children and to evaluate those interactions in terms of their potential for facilitating or adversely affecting the linguistic development of the handicapped child.

The literature regarding the nature of maternal-child speech interactions provided a useful framework for this work and has clearly suggested that mothers adjust virtually all aspects of their speech in accordance with the linguistic and cognitive capacity of their children, and that these adjustments have the effect of making language learning easier (Broen, 1972; Snow, 1972). In

fact, Rondal (1976) has recently shown that the language environment provided by mothers of handicapped and nonhandicapped children is virtually identical when children are matched in terms of mean length of utterance (MLU), and suggested that mothers of handicapped children are making language adjustments that are as appropriate (and as facilitating) as do mothers with normally developing children.

Accordingly, looking at the child-child linguistic environment, we asked if nonhandicapped preschool children make similar adjustments in their verbal communications when addressing children at various developmental levels. Specifically, nonhandicapped peers were asked to instruct children who were classified as manifesting mild, moderate, severe, or no handicaps. Classification was based on IQ scores in accordance with the American Association on Mental Deficiency categories and MLU. Speech to the four groupings of children by nonhandicapped peers was recorded and analyzed in terms of a wide range of linguistic parameters designed to reflect measures of verbal productivity and grammatical complexity. The results indicated that, indeed, nonhandicapped peers did alter their speech in accordance with the developmental level of the child they were addressing. In general, consistent with the mother-child findings, speech tended to be more frequent, more complex, and more diverse when addressing children at higher developmental levels. A similar pattern was observed for measures obtained during free-play periods.

These data suggest that the linguistic interactions that exist among handicapped and nonhandicapped children may well be appropriate and provide input that has developmental significance for the handicapped children. Should further research confirm this contention, additional empirical support for the notion that nonhandicapped peers can function as educational and therapeutic resources in integrated settings will have been obtained.

From a methodological perspective, further analyses should focus on following sequences of verbal and nonverbal interactions. It would be useful here to note correspondences among the semantic, syntactic, and pragmatic aspects of communication. Consequently, we should seek to determine the kinds of adjustments made by the speaker, for example, in direct response to the verbal and nonverbal behavior of the listener. That is, if noncompliance to a direct request occurs, does the next utterance include a reduction in the length of the utterance and, if so, what syntactic, semantic, or other behavior changes occur? A detailed analysis along these lines should provide specific answers to questions that none of the previous studies without this methodology has been able to offer.

CONCLUSIONS

Certainly, at this point in our knowledge, considerably more research on the dynamics, structure, and limitations of peer influence are in order. A number of

parameters appear most worthy of study, and they include, among others, the chronological age of the peer group, the developmental level and level of observational skill of the handicapped children, the type of behavior focused upon, the degree of classroom structure and available resources, grouping characteristics, and the characteristics of the nonhandicapped children. In any case, evidence is accumulating that more advanced preschool children can indeed be considered resources and assist in the growth and development of their handicapped peers.

SUMMARY

A review of recent experiments conducted in settings integrating handicapped and nonhandicapped preschool children is presented. Studies involving social and play interactions as well as a detailed analysis of the linguistic environment provided by nonhandicapped peers suggest the importance of peers as resources in these settings. A number of conceptual issues are raised as well.

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