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ABSTRACT

This paper presents a discussion of the integration of handicapped children into preschool programs. The paper is divided into five sections. The first section defines some of the terms frequently used in discussions of mainstreaming. These terms include mainstreaming; normalization; P. L. 94-142, the law providing for education for all handicapped children; and IEP, the Individualized Education Plan. The second section presents a discussion of both the legal and legislative arguments used in favor of mainstreaming and the potential benefits of mainstreaming for handicapped and nonhandicapped children. The third section reviews research related to social interactions in integrated preschool settings. This review includes research on spontaneous interactions, the facilitation of interactions, and recommendations for future research in this area. The fourth section of the paper describes preschool programs which have successfully integrated handicapped and nonhandicapped children. The programs described include center- and research-based programs, transitional programs, and open education approaches. The final section of the paper discusses some of the issues involved in preschool mainstreaming. This discussion focuses on the training of personnel, the identification of the components of successful programs, the mainstreaming of severely handicapped children, the arrangement of the environment, and criteria for the evaluation of integrated programs. (BD)

MAINSTREAMING IN THE PRESCHOOL

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and

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INTRODUCTION

During the 60's an imposing body of theoretical and empirical evidence was offered in support of the assumption that educational intervention has maximum impact with children under five years of age. Scholars and scientists from a variety of disciplines and representing diverse educational philosophies generally agreed that developmental processes and behavioral responses undergo rapid change and are most malleable during the early years (Hunt, 1961; Bijou and Baer, 1961; 1965; Kirk, 1958; Piaget, 1952; Kagan, 1972).

Recognizing the importance of early stimulation to later development, a number of investigators initiated experimental programs designed to accelerate the development of young children who seemed potentially handicapped because of experiential deprivation (Karnes, 1970; Deutsch, 1964; Edwards and Stern, 1970). Other researchers studied the effects of early intervention on mentally (Kirk, 1958), emotionally (Burke, 1972), sensorially (Tait, 1972), and physically (Connors, 1974) handicapped young children. These efforts largely reinforced the belief that developmental anomalies could be positively altered during the early years (Karnes and Teska, 1975). By 1970 a network of programs serving young handicapped children was operating. These projects, funded by the Bureau of Education for the Handicapped, became known as First Chance Programs.

As First Chance Programs developed, a number of factors operating within special education produced a trend away from educating handicapped learners in special classes and toward mainstreaming--the integration of handicapped learners into regular classes for the majority of the school day. Prominent among these factors were: 1) litigation focusing on the social inequality of segregated services for the handicapped (Cohen and DeYoung, 1973); 2) the mediocre record

of children in segregated classrooms (Cgelka and Tyler, 1970); 3) a growing commitment among special educators to the principle of normalization (Wolfensberger, 1972); 4) increased financial incentives from federal and state governments in support of integrated services; and 5) national legislation (P.L. 94-142) mandating the return of handicapped children to regular classrooms whenever possible. As mainstreaming gained acceptance among special educators in grade school and secondary settings, educators interested in younger children began to advocate integrated programs for preschool children as well (e.g., Karnes, 1970). Soon programs enrolling integrated groups of handicapped and nonhandicapped preschool children began to emerge (Bricker and Bricker, 1972, 1973; Karnes, 1970). By 1972 mainstreaming had been mandated as part of Project Head Start.

Today, the integration of handicapped and nonhandicapped children is a prominent feature of many preschool programs--Head Start, daycare, and First Chance. With the implementation of P.L. 94-142, integrated services for preschoolers will grow even more rapidly. Despite the growing popularity of integrated preschools and the impending federal mandate, however, few attempts to examine the preschool mainstream literature have been made (Wynne, et al, 1975). Unfortunately, previous reviews neither evaluate the literature in a systematic fashion nor identify issues that are unique to mainstreaming in the preschool.

In this presentation, a number of fundamental issues and empirical findings concerning classroom-based integrated programs for preschool children are explored. The intent is to familiarize students and workers in early childhood education with these issues, to review recent research, and to examine program development in this area. First, mainstreaming and related terms are defined. Next we consider the rationale for mainstreaming, focusing primarily

on the justification for beginning the process early. In the third section, recent research on several important areas in preschool mainstreaming is reviewed. The fourth section presents a brief review of preschool projects that employ integrated approaches. Finally, the paper concludes with a discussion of the issues raised by the attempts to integrate handicapped and nonhandicapped preschool children.

MAINSTREAMING AND RELATED TERMS

Terms associated with mainstreaming have proliferated in the literature of special education. To the novice, these terms can be intimidating. In this initial section, therefore, the meaning of four terms commonly used in the mainstreaming literature will be considered: 1) mainstreaming, 2) normalization, 3) P.L. 94-142, and 4) IEP.

Mainstreaming is defined in various ways by educators. Daily (1974), for example, notes a wide variety of definitions, one of which is merely to strip the label from the handicapped child and return him to the classroom. Other definitions stress the temporal aspect of mainstreaming; that is, the amount of time the handicapped child spends in the regular classroom. But these definitions are of limited value because they ignore the comprehensive nature of mainstreaming by failing to emphasize instructional delivery, assessment, and other vital elements of programming.

More useful definitions of mainstreaming recognize it to be a comprehensive process; Birch (1974), for example, incorporates 14 factors in his definition of mainstreaming:

--Mainstreaming refers to the assignment of handicapped pupils to regular classes and the provision of special education for them,

--In mainstreaming, regular classroom teachers broaden and adapt instructional procedures and content so all children are incorporated into regular programs at levels manageable for each child and teacher.

--Mainstreaming may be accomplished at any level, preschool through secondary school.

--In mainstreaming the handicapped pupil reports to the regular classroom teacher.

--In conventionally organized schools or open space schools, handicapped pupils being mainstreamed spend at least half of the day in regular classes.

--In conventionally organized schools the special education teacher has a headquarters to which handicapped pupils can come for periods of time from the mainstream rooms to which they have been assigned.

--In open space schools, the special education teacher may be a member of the team serving in the open space setting or may have a separate room as headquarters.

--Mainstreamed handicapped pupils leave the main group only for essential small group or individual instruction and educational assessment or to pick up and deliver assignments prepared by the special education teacher.

--Regular and special education teachers agree upon individual schedules and assignments for mainstreamed children.

--Regular teachers are responsible for grades and report cards for mainstreamed, handicapped pupils, but they may consult with special education teachers.

--Special education teachers help regular teachers by providing educational assessments and instructional consultation for regular class pupils who may not be eligible for special education in the usual sense.

--Mainstreaming implies that handicapped pupils usually begin their education in regular kindergarten or first grade groups with special education support and are removed to special classes or schools only when the necessity to do so is shown and only for the period required to prepare them to return to regular classes.

--Criteria for selecting handicapped pupils for mainstreaming are set in terms of matching the educational needs of children with the capability of the mainstream program to meet those needs rather than in terms of the severity of

the pupil's physical, mental, emotional or other handicap.

--Mainstreaming has a place in the spectrum of plans for organizing instruction, space, and facilities to accommodate the educational needs of handicapped pupils.

A highly useful and often quoted definition of mainstreaming is provided by Kaufman, Gottlieb, Agard, and Kukic (1975):

> Mainstreaming refers to the temporal, instructional and social integration of eligible exceptional children with normal peers based on an ongoing individually determined educational planning and programming process and requires clarification of responsibility among regular and special education administrative, instructional and supportive personnel. (pp. 40-42)

As this definition suggests, mainstreaming is more than an administrative procedure or a temporal integration of handicapped children with normally functioning children. Rather, mainstreaming includes instructional and social integration, individualized educational planning, and the clarification of responsibility on the part of all professionals involved.

McMillan, et al (1976) add an important qualification to the definition. Categorical labels, such as mentally retarded or emotionally disturbed, should be removed from mainstreamed children.

Still another component frequently mentioned in definitions of mainstreaming is the need to provide a continuum of educational services. That is, mainstreaming applies not merely to the integration of the handicapped child into regular classrooms but to integration into the most normal or least restrictive environment. As the National Advisory Council on Education and Development (1974) puts it:

In its most ideal form this integration of handicapped children into regular classrooms would be accomplished within a system based upon a continuum of educational services along the continuum. Services would range from total education within a regular classroom for the mildly handicapped, to highly specialized services outside of the public school system for the most severely handicapped. Placement of a student along the continuum should be based exclusively upon consideration of the student's educational needs. (p. 1)

As stipulated here, the terms mainstreaming and least restrictive environment become synonomous--that is, to place the handicapped individual in the most normal or least restrictive environment is to place him in the most appropriate mainstream setting.

Finally, Nicholas Hobbs (1975) argues that the mainstreaming principle does not imply a hodge-podge or melting pot where children's special needs tend to lose their identity; instead it predicates meaningful, integrated programs that require numerous arrangements, each geared to unique individualized and group needs. Hobbs writes:

In schools that are most responsive to individual differences in abilities, interests and learning styles of children, the mainstream is actually many streams, sometimes as many streams as there are individual children, sometimes several streams as groups are formed for special purposes, sometimes one stream only as concerns of all converge. We see no advantage in dumping exceptional children into an undifferentiated mainstream; but we see great advantages to all children, exceptional children included, in an educational program modulated to the needs of individual children, singly, in a small

group, or all together. Such a flexible arrangement may well result in functional separations of exceptional children from time to time, but the governing principle would apply to all children; school programs should be responsive to the learning requirements of individual children and groups should serve this end. (p. 297)

In summarizing the diverse definitions of mainstreaming the following points should be reiterated:

1) Definitions of mainstreaming vary widely from simplistic definitions which merely require that the child be delabeled and returned to the regular classroom to complex definitions which reflect the comprehensive nature of the mainstream process.

2) No consensus definition of mainstreaming is found among educators.

3) In our view, mainstreaming, integration, and least restrictive alternative are essentially synonymous terms.

4) Useful definitions of mainstreaming stress the following elements:

A) The temporal integration of handicapped children with their normal peers;

B) Individually determined instruction;

C) The social integration of handicapped and nonhandicapped children;

D) The clarification of professional roles;

E) The delabeling of the child.

Normalization refers to a principle originally developed in Scandinavia (Wolfensberger, 1972), which advocates life conditions for handicapped persons which approximate "normal" as closely as possible considering the individual's limitation. Normalization is a more comprehensive term than mainstreaming in that it applies to multiple life situations, not just education. When applied

to education, normalization means to place handicapped learners into regular classrooms unless the individual's limitations are such that a more restrictive placement is essential. Normalization, when applied to education, is equivalent to least restrictive environment and therefore to mainstreaming.

P.L. 94-142 refers to the education for all handicapped children act passed by the 94th Congress and signed into law by President Ford in 1975. This landmark document for the handicapped child contains a number of significant elements. First, by fiscal year 1978, all handicapped children between the ages of five and eighteen years are to have access to public education. By fiscal year 1978, all handicapped children between the ages of five and eighteen years are to have access to public education. By fiscal year 1980, all handicapped children from three to five years are to have access to public education in states mandating services to this age group. Second, handicapped children will receive educational services in the regular classroom with nonhandicapped children whenever possible and will always be placed in the least restrictive, yet appropriate, environment. Third, every handicapped child must have a written individualized educational plan developed in cooperation with the school, parents and child when possible. IEP's are designed to ensure that every child has the opportunity to receive an appropriate education. Fourth, methods used to evaluate children must take into account the child's cultural background, primary language, and past history. Fifth, parents must be notified by the school before educational decisions (e.g., placement, curriculum changes) are made about their child. They will have the opportunity to institute a formal review of decisions which they feel are inappropriate. Sixth, procedures will be developed to ensure that procedural due process has been established. Seventh, a priority of 94-142 is the establishment of a mechanism

to locate all eligible children not receiving services and to target the development of appropriate public-education programs for these children. Eighth, the legislation provides special training funds for teachers and professional staff to become conversant with new education practice and materials. A ninth and final element in this legislation is the directive to public schools to reduce architectural barriers that limit the access of the handicapped child.

The impact of P.L. 94-142 on the lives of handicapped citizens is perhaps best captured in the following excerpt from the law:

> "The basic machinery would seem to be in place for propelling education of the handicapped into a new era. The handicapped person's right to a good education is now guaranteed, and though lamentably often there has been a serious difference between actual practice and what state and Federal laws supposedly require, there is now at least a firm foundation on which to build." (p. 3)

For the reader interested in further details, a well-written synopsis of the law is presented by Goodman (1976) and Weintraub, et al (1976).

An IEP, or Individualized Education Plan, is a written statement which describes both the content of a handicapped child's educational program and the manner in which special education and related services will be provided. An IEP is developed jointly at a multidisciplinary staff conference by the regular class teacher, the child's parent or guardian, the special services teacher, and ancillary personnel (e.g., psychologists, speech or motor therapists, social workers) who work with the child. According to the federal rules and regulations (Section 121A.225) which guide the implementation of P.L. 94-142, an IEP must contain:

1) a statement of the child's present level of educational performance in areas in which he/she receives instruction;

2) a statement of annual goals which specify the educational performance to be achieved by the child by the end of a school year;

3) a statement of short term instructional objectives for each annual goal which represent measurable intermediate steps between the child's present level of performance and the desired level as stated in an annual goal;

4) a statement of special education and related services which will be provided, including the type of physical education program in which the child will participate and special media and materials required to implement the child's IEP;

5) initiation date and anticipated duration of special education and related services;

6) a description of the extent to which the child will participate in regular education programs;

7) a justification for the child's educational placement;

8) objective criteria, evaluation procedures, and schedules for determining on at least an annual basis whether short-term instructional objectives have been achieved.

Though the law requires IEP's for handicapped children only, it is usually a good idea for teachers to develop Individualized Educational Plans for all children--handicapped and nonhandicapped alike.

RATIONALE FOR MAINSTREAMING

Because mainstreaming is a complex educational procedure, it is unlikely that educators will ever agree on a single best solution for its implementation. But while educators may not agree on how to implement mainstreaming, they do agree as to why integration of handicapped and nonhandicapped of all ages is a sound and humane educational policy. The arguments which comprise a rationale for mainstreaming may be somewhat arbitrarily grouped into two areas: 1) legal-legislative arguments and 2) benefits to children, handicapped and nonhandicapped alike.

Legal-Legislative Argument. Recent legal and legislative decisions form the basis for a compelling set of arguments in support of mainstreaming. Legal mandates, which evolved from these court decisions and legislative acts, and have had the most influence on educational practice are: 1) the right of all handicapped children to a free public education, 2) the right of handicapped children to educational placement in the least restrictive environment, and 3) a guarantee of due process for parents concerning their right to review educational decisions relevant to their child.

With respect to court decisions, two cases--PARC (1971) and Mills (1974)--are of particular importance in establishing precedents for the rights of handicapped children. In The Pennsylvania Association for Retarded Children (PARC) vs. The Commonwealth of Pennsylvania, the right of a previously excluded group of retarded children to a free public education was ensured. The State also acknowledged the right of handicapped children to educationin the least restrictive environment.

It is the commonwealth's obligation to place each mentally retarded child in a free public program of education and training appropriate to the child's capacity, within the context of a presumption that, among the alternative programs of education and training required by statute to be available, placement in a regular public school class is preferable to placement in a special public school class and placement in a special public school class is preferable to placement in any other type of program of education and training.

Although the PARC case is a landmark with tremendous impact on the future of special education, it covers the rights of mentally handicapped citizens only. Legal experts, however, recognized that it was only a matter of time before a similar ruling covering all handicapped children would be handed down. This ruling came in Mills vs. The Washington, D.C., Board of Education (1973). The Mills decision closely parallels PARC with two important exceptions: 1) rights of treatment, placement and due process are extended to all handicapped children and 2) lack of funds is not an acceptable excuse for excluding handicapped children from public schools.

At the time of the PARC and Mills litigation, a number of states (e.g., Tennessee, 1972, and Wisconsin, 1973) were enacting legislation intended to promote the inclusion of school-age handicapped children, regardless of degree of impairment, into the most appropriate placement in the domain of publid education. Most of these state statutes reflected the basic rights of handicapped children and guaranteed due process procedures for their parents. With the weight of legal precedent and the pressure from states, the Federal government finally entered the scene with the Education for All Handicapped Children Act (Public Law 94-142).

Of the many reasons presented in support of mainstreaming, the most powerful is clearly the legal and legislative mandate to educate children in the most normal environment. The message of the mandates from both legal and legislative sources is that the integration of handicapped children into programs with nonhandicapped children is no longer the exception, but the rule.

Benefits to Children. The potential developmental opportunities for both handicapped and nonhandicapped children that exist in integrated environments comprise the second argument in support of mainstreaming. The weight of this argument rests on a number of factors which suggest that integrated environments best serve as educational and theraputic environments for all children.

A first factor involves the potential benefits to handicapped children from observing more advanced peers. It seems clear from the imitation literature that children acquire new responses from observing and modeling the behavior of others (Parton, 1976; Bandura, Grusec, and Menlove, 1967). There are also indications that children selectively model those who perform responses more effectively (Strichart, 1974). These findings argue for the exposure of handicapped children to competent models in integrated environments rather than for their restriction in segregated environments where exposure is limited to other developmentally deficient models.

Similarly, opportunities to interact with nonhandicapped children provide potential benefits to the handicapped. For example, in the area of play, Bricker and Bricker (1971) indicate that nondelayed children provide better models of appropriate play skills than do adults. Similarly, Rubenstein and Howes (1976), in a study with toddlers, observed that the presence of peers enhances various aspects of play including its frequency, maturity, and the creative use of objects. Moreover, a number of studies reviewed later in this paper suggest that nonhandicapped children can serve as valuable resources by

providing instruction, applying adaptive consequences, or modeling appropriate social and language behaviors for their handicapped peers. Once again, these findings argue for integrated environments in which handicapped children benefit by the presence of their nonhandicapped peers.

Nonhandicapped children also benefit from integrated environments. They develop increased understanding and sensitivity to individual differences. It is likely that important attitudinal processes are positively affected by their exposure to handicapped peers. Moreover, there is considerable evidence that nonhandicapped children benefit from integrated programs to at least the same degree as would be expected had they attended non-integrated preschools.

A final argument in favor of integrated programs concerns the benefit to teachers that arises from opportunities to observe a mixed group of children. Especially at the preschool level, integrated classrooms provide teachers with a ready framework for guaging child behaviors within a developmental context.

One last word: merely placing children together in a classroom will not yield these desired outcomes. Rather, teachers must work hard to systematically arrange events and other specialized procedures which encourage and support integration.

In the past two or three years a small but fascinating research literature examining issues unique to mainstreaming in pre-primary settings has emerged. These studies are scattered throughout a number of research periodicals and, as of this writing, have not been collected in any single review. In this section, we group these very recent experimental findings into three major areas: 1) social interaction in integrated preschool settings, 2) procedures to facilitate social interactions in integrated settings, and 3) the role of nonhandicapped peers as educational agents. This section closes with recommendations to researchers and educators for future research and practice.

Social Interaction in Integrated Preschool Settings

Several studies have examined the extent to which handicapped children in integrated school environments are accepted by and interact with their nonhandicapped peers (Levitt and Cohen, 1976, review this research). Almost all of this research has been conducted with children of primary and elementary school age or with adolescents. Some of these studies have produced equivocal results, but the general trend suggests that, on the basis of sociometric and observational data, school-aged handicapped children are not readily accepted by their nonhandicapped peers regardless of whether the setting is a nongraded elementary school (Goodman, Gottlieb and Harrison, 1972), a regular classroom with supportative services (Iano, et al, 1974), or an open space secondary school (Gottlieb and Biedoff, 1973). On the positive side, however, a few writers (e.g., Kennedy and Bruininks, 1974) have found that younger, primary-aged children have less negative attitudes toward the handicapped than do older children.

Unfortunately, only a few studies to date examine the social and play behavior of handicapped and nonhandicapped children in integrated preschool settings. In fact, a review of the child development literature uncovered only four such studies. Since this small body of research constitutes an early source of data on an important question, these studies are summarized here in some detail.

Porter, Ramsey, Tremblay, Iaceobo and Crawley (1978) observed the social behavior of retarded and normally functioning children during free play in an integrated preschool. Twenty-seven children ranging in age from 18 to 64 months were assigned to six groups of four children each; a seventh group contained three children. Each group had at least one child from each of the two subpopulations. During 30-minute observation sessions, each group was removed from the classroom and placed in a 12 x 16 playroom. The floor of the playroom was marked off with tape to form a grid indicating distances; the room was also equipped with a one-way mirror, a roving videotape camera, and microphones suspended from the ceiling. Each day one child was selected and followed for the 30-minute play session. Over the cource of the study each child was followed at least once.

Porter, et al, examined two general classes of behavior: 1) the interpersonal distance between retarded and nonretarded children and 2) the social preference of and interaction between the two subpopulations. Normally developing children maintained a closer mean proximity to other normally developing children than they did to their retarded peers. Further, they engaged in several categories of social behavior with other normal children significantly more often than they did with retarded children. Retarded children, on the other hand, displayed no consistent preferences for retarded versus normal peers. Thus, the data in this study revealed a consistent preference by nonhandicapped children for other nonhandicapped children.

In a second study, Devoney, Guralnick, and Rubin (1974) evaluated the effects of integrating handicapped and nonhandicapped preschool children on social play skills. Handicapped children in a nonintegrated situation were rated on a time-sampling basis for both positive peer interactions and social play level using a social play scale that ranged from autistic-like and isolate play to cooperative play. After a variety of unsuccessful attempts to increase substantially the quality of the handicapped children's play, a group of nonhandicapped children were introduced into the play situation. Although the introduction of these children improved the social play of handicapped children to some extent, the change was not substantial. Moreover, the authors noted few spontaneous social interactions between handicapped and nonhandicapped children. Not until the teacher systematically structured the situation, using nonhandicapped children to promote various interactions, did marked increases in social interactions and the quality of play occur.

A third study examined how heterogeneous or homogeneous grouping influenced social interaction among "disadvantaged" and "privileged" preschoolers in Israel (Feitelson, Weintraub and Michaeli, 1972). Children from both groups were identified primarily by the occupation and educational level of their parents, though a number of children among the disadvantaged group manifested mild and moderate handicaps. Parents of "privileged" children had completed at least a secondary education and held white-collar-skilled positions; parents of the "disadvantaged" had completed elementary school only and were employed in semi-skilled or unskilled occupations. Ninety-six 3-year olds, half "privileged" and half "disadvantaged," were randomly assigned to one homogeneous "disadvantaged" groups or to one of three heterogeneous groups in which the ratio was eight "disadvantaged" to 16 "privileged." Records of social behavior were collected during one-hour, free-play observations and analyzed at the beginning

and end of the 2-year project. Data showed that "disadvantaged" children in a homogenous environment exhibited a greater number of positive peer interactions than did their counterparts in a heterogeneous setting. In contrast, "disadvantaged" children in heterogeneous setting interacted less frequently with peers and then almost exclusively with children from their own social group (e.g., other "disadvantaged" children). There were no significant differences between "privileged" children in the settings in the number of positive interactions and "privileged" children in both groups interacted mainly within their own social group.

Whereas the first three studies showed little interaction between handicapped and nonhandicapped children, Hawkins and Peterson (1977) found substantial peer interactions between handicapped and nonhandicapped children. Their study, which was conducted at an integrated preschool at the University of Kansas, involved frequent structured observations of social and play interactions between 10 handicapped and 5 nonhandicapped children during free play. Several independent observers were used, and each child was followed 20 minutes daily for 18 days, using a 30-second individual recording procedure. Although a number of variables were examined and the results are complex, the data generally indicate relatively little discrimination by nonhandicapped children toward their handicapped peers.

Taken as a whole, these four studies suggest that spontaneous interactions between handicapped and nonhandicapped children are not likely to occur. Of course, before definitive claims can be made regarding social interaction in integrated preschool settings, more normative data are needed on the interaction patterns of children in such settings. Nevertheless, the available evidence suggests that teachers cannot assume that positive peer interactions will occur

in integrated settings and that specialized procedures to encourage and support such interactions are needed. This is the subject of our next discussion.

Procedures to Facilitate Social Interactions in Integrated Settings

In recent years, several studies have attempted to program social interactions among preschool children in integrated setttings. We shall consider first those suggestions which are teacher-oriented; then we shall review those which rely on the child as the agent of change.

Teacher Reinforcement. Teacher praise, provided contingent upon the child's positive interactive behavior, increases social integration among preschool children. Strain and Timm (1974), for example, applied contingent teacher attention to reinforce an isolate preschool child and her peers for attempts at social interaction. These writers measured interactive behavior under two conditions of contingent teacher attention. In the first condition, verbal praise and physical contact were directed to a target subject's peers for appropriate interaction with the target subject. In the second condition, verbal praise and physical contact were directed to the target subject for appropriate interaction with peers. Results indicated that the application of contingent teacher attention to peers rapidly increased appropriate social behaviors by the peers and also by the target subject. Similarly, contingent teacher attention applied to the target subject resulted in a similar increase in appropriate social behaviors for both the target subject and peers. Additionally, it was noted that the recipients of contingent adult attention initiated more appropriate social contacts than did the peers.

But teacher reinforcement can also interfere with ongoing social interaction between children. Recent research suggests that teachers should be sensitive to social interaction that occurs naturally between children. Shores, Hester and Strain (1976) found that dramatic play or role playing activities were

more successful in producing social interaction between handicapped and nonhandicapped preschool children than were arrangements that relied heavily on continued adult involvement. Similarly, Strain and Wiegernick (1976) found that sociodramatic activities (for example, having handicapped and nonhandicapped children act out favorite stories) were far more effective in promoting social interaction than was contingent teacher attention alone.

These studies suggest that while teacher attention is a powerful device in promoting and maintaining social interaction, teachers should be no more obtrusive and obvious than necessary in structuring positive social-emotional experiences between handicapped and nonhandicapped children. Additionally, this policy will be more likely to result in the maintenances and generalization of social interactions in settings where children are outside the teacher's direct influence.

Arranging Physical and Spatial Events in the Classroom. Child development research shows that certain physical and spatial features of nursery school environments inhibit social interactions among children while others promote such interactions. Several studies (Green, 1933; Jersild and Markey, 1935; Murphy, 1937) in the early peer interaction literature relate space allotments to aggressive interactions among peers in preschool settings. Generally, these studies suggest that aggressive interactions occur more frequently when space is restricted.

Other studies (Murphy, 1937; Markey, 1935; Updegraff and Herbst, 1933; Quillitch and Risley, 1973) have examined the influence of play materials and equipment on the social behavior of young children. Green (1933), for example, reports that children were more likely to quarrel with one another when playing with sand than when playing with swings, jungle gyms, and rocking horses.

Murphey (1937) reports more cooperative behaviors when children use swings, tricycles and wagons than other toys commonly found in nursery settings. Similarly, Markey (1937) found few conflicts when children were playing with blocks, and Upedgraff and Herbst (1933) report greater cooperation among children playing with clay. And, in a number of studies (Buell, et al., 1968; Cooper, et.al., 1966; and Johnson, et al., 1966), outdoor climbing equipment was found to produce increases in cooperative peer interactions.

A powerful example of the influence that toys have on child behavior is demonstrated in a study by Quillitch and Risley (1973). These writers found that young children would play alone or together depending upon the toys available. Systematic variation of the presence and absence of six "social" toys and six "isolate" toys revealed that children played with one another seventy-eight percent of the time when social toys such as checkers or playing cards were present but only sixteen percent of the time when isolate toys such as puzzles, tinker toys, or play dough were present.

Johnson (1935) examined the effects of the availability of play equipment on negative behaviors like teasing, crying and hitting. He found that when relatively few pieces of equipment were available, children were more likely to exhibit negative behaviors. Body (1955) reported similar findings and also found that the temperature of the play environment influenced the number of conflicts among preschool children. That is, children who played in warmer areas of the room were more likely to quarrel with one another than were children who play in a cool, shaded area.

The above studies suggest that social interactions are influenced by the physical and spatial characteristics of early education settings and that teachers should experiment with various arrangements of materials and space. But it is also important that all children in the play setting have the necessary

skills to utilize the available materials. Some observers report that children must first learn to use play materials before peer interaction will occur. Allen, Turner and Everett (1970), for example, found it necessary to teach two severely handicapped preschoolers how to play with ordinary play materials before these materials could be used to promote social interaction with non-handicapped peers. Teachers should also be sure that sufficient materials are present to permit interactive participation by all children. Duplicate toys and materials permit and may encourage imitative behavior by handicapped children who observe a nonhandicapped child enjoying a toy.

Peers as Educational Agents. Integrated preschool programs provide a number of potential and perhaps unique opportunities for nonhandicapped children to serve as valuable resources in fostering the development of their handicapped peers. The role of nonhandicapped children in promoting the behavioral development of handicapped peers has been the subject of some recent and fascinating research, specifically, the strategies whereby normal children can aid in the development of social, language and imitative behaviors among their less advanced peers.

A number of recent studies point to the potential of using nonhandicapped peers to promote the social development of handicapped children. In his first study, Guralnick (1976) attempted to increase the appropriate social interactions of a child who displayed many severe isolate behaviors. Specifically, during certain activities, the teacher requested that nonhandicapped preschool children tag along with the withdrawn child, despite the fact that the withdrawn child exhibited a complex repertoire of bizarre, self-directed, and peer avoidance behaviors. Nonhandicapped peers were instructed to reinforce ("attend to") all positive ("nice") behaviors of the withdrawn peer. Analysis of the data revealed that the close, physical presence of the nonhandicapped children and their response to and reinforcement of the positive behavior of the

withdrawn child substantially increased the positive social interactions of the withdrawn child. Maintenance data collected two weeks after intervention showed the target child's interaction levels to be stable at approximately the level attained during intervention.

In a second study, Guralnick (1976) analyzed the effects of nonhandicapped peers in modifying the social play behavior of less advanced peers. A setting was arranged in which two nonhandicapped peers focused on promoting the social play of a designated handicapped child. Through role playing and direct training, nonhandicapped children were instructed to model and encourage interactive and constructive play with a particular toy and to reinforce only the appropriate social play behaviors of the handicapped child. The handicapped child's social play behavior was observed using Parten's (1932) categories: Isolate - Associate - Cooperative. Results showed that peer modeling and selective reinforcement procedures were effective in increasing the percentage of observation intervals in which the ~~non~~handicapped child engaged in associate and cooperative play.

Wahler (1967) analyzed the effects of high and low rates of peer attention on several social behaviors. Working in an integrated nursery school, Wahler selected three nonhandicapped children who produced social behaviors that received high baseline rates of peer attention and two handicapped children who produced behaviors that received unusually low baseline rates of peer attention. To determine the effect of peer attention on these behaviors, the nonhandicapped peers were instructed to continue playing with the handicapped subjects (i.e., attend to them) except when they produced the social behaviors designated for reinforcement. As expected, social behaviors that were ignored by peers decreased substantially while those that peers attended to increased. These changes were subsequently reversed and then recovered when the baseline and intervention procedures were replicated.

With this demonstration, Wahler (1967) provided experimental evidence of the precise reinforcing effects of the attention of nonhandicapped peers on the behavior of handicapped preschool children.

A final study demonstrating the use of nonhandicapped preschool children to promote the social development of their handicapped peers is reported by Lee (1977). In this study contingent teacher attention was used to increase social interactions between two specific children: one a socially skilled model and the other a handicapped, socially isolate peer. Training was conducted in free play settings in two classrooms with generalization probes made during snack and free play. In addition, two socially isolated children, one in each class, served as controls. The results showed that contingent teacher attention was effective in increasing social interactions between the model and handicapped child in each classroom. Additionally, social interactions of the isolate subjects increased dramatically in both the free play and snack settings during intervention and were maintained during a probe conducted two weeks later.

Recent evidence suggests that nonhandicapped children can also serve as valuable agents in promoting the language development of their handicapped peers. In two recent studies Guralnick (1976, 1977) demonstrated that nonhandicapped children successfully modified the inappropriate verbalizations of handicapped peers in an integrated setting. In the first study, two nonhandicapped preschoolers were trained to attend selectively to the appropriate verbalizations of a handicapped peer. Results showed a decrease in inappropriate verbalizations and an increase in appropriate verbalizations. In the second experiment, the inappropriate language behaviors of a handicapped preschool child were modified by having the subject child observe a trained nonhandicapped peer use appropriate language forms. When the peer model was

reinforced by the experimentor for appropriate form usage in the presence of the handicapped child, the latter soon began producing the same appropriate forms. Thus, by simply reinforcing language responses in a more advanced peer, an increase in the use of those same responses was produced in the handicapped child.

Little doubt exists that young children learn to produce new behaviors by observing and imitating the actions of others. Such a process is called learning by imitation, and its effects have been clearly documented (Parton, 1976). Observations of a model have produced behavioral changes across a widely disparate range from reducing overt fear responses (Bandura, Grusec and Menlove, 1967) to increasing appropriate behaviors (Guess, et al., 1968). Additionally, the studies cited earlier in the areas of social and language development are examples of learning by imitation; indeed, most learning in integrated settings is by imitating others.

But many young handicapped children do not know how to imitate and thus are deprived of learning opportunities unique to integrated settings. Recent research in Sonoma, California employs a direct conditioning procedure for training developmentally delayed toddlers and preschoolers to imitate non-handicapped classmates. The intervention procedure, termed peer imitation training, consists of verbally and physically prompting a child to imitate the behavior of a classmate and then replacing the prompt with adult praise for imitative behavior. Two studies employing peer imitation training have been reported.

One study (Apolloni, Cooke and Cooke, 1977) investigates the feasibility of training delayed toddlers to imitate motor, material use, and verbal responses of nondelayed age-mates. Three developmentally delayed subjects and two nondelayed peers, all under three years of age, were used in the study.

Results indicated that under highly structured conditions, delayed subjects could be trained to imitate their nondelayed age-mates. A probe for generalization in a non-training, free play setting without adult presence found, however, that increased levels of imitative behavior, especially verbal imitations, were not maintained.

Thus, a second study (Peck, et al.,1976) was directed toward developing peer imitative behavior that would be maintained under nontraining free play conditions in the absence of an adult experimentor. The authors reasoned that since previous research had substantiated that generalization is likely to be obtained when there is a high degree of correspondence between the training and generalization settings, peer imitation training should be carried out in free play settings. Two experiments followed. In the first, an adult experimentor prompted and praised developmentally delayed subjects for imitating the ongoing free play behavior of nondelayed children. Peer imitation was defined as, "A response similar in topography to one emitted five seconds or less previously by another child and which was observed by the subject" (Peck, et al., 1976). p.6 During generalization sessions the adult experimentor left the play area. Results from this experiment demonstrated that peer imitation training could teach developmentally delayed preschoolers to imitate the free play behavior of nondelayed classmates. Additionally, consistent increases in the imitative responses of delayed subjects under nontraining conditions were noted. Reciprocal increases in social interaction between delayed subjects and nondelayed subjects under training and nontraining conditions were also noted.

The second experiment replicated the procedure of the earlier study with two-year-old subjects, with the addition of a bidirectional training prodecure; that is, both delayed and nondelayed participants were trained to imitate one another in a variety of material and motor activities. Once again,

the experimentor left the play area following the training session. The results of the second experiment replicated those of the first with one notable exception; nondelayed children imitated delayed children under training conditions but not under nontraining conditions.

In summary, the two studies provide tentative evidence to support the feasibility of training young delayed children to imitate the behavior of nondelayed classmates under highly structured conditions. Further, generalized peer imitation across stimulus conditions and to responses never directly trained were observed. Finally, generalized increases in social interaction between handicapped and nonhandicapped children accompanied training.

So far, the studies reviewed support the feasibility of using nonhandicapped children to assist in the development of their handicapped peers. But what about the effects of integration on nonhandicapped children? Certainly, a salient characteristic of integrated programs is their emphasis on meeting the individual needs of all children, including those who are nonhandicapped.

Data to answer this question are limited, however, evidence collected in integrated preschool settings, as measured by standardized tests, systematic observations, informal anecdotal evidence, and later school success, suggests that nonhandicapped children benefit from integrated programs at least to the same degree as would be expected if they had attended non-integrated preschools.

Bricker and Bricker (1971, 1972), for example, used standardized intelligence tests and parental evaluation to assess the effects of the presence of handicapped children on the development of normal children. The development of normal children, as measured by pre- and post standardized intelligence measures, progressed as expected with no regression effects noted. In terms of parental evaluations, the Brickers noted:

> The parents of all nine non-delayed children in the first year [of the project] and ten out of twelve of the non-delayed children in the second year were willing to re-enter their children in the program. None of the parents in the first year felt their non-delayed child had suffered any negative effect from interacting with less capable children, while two out of twelve during the second year said perhaps their children had picked up some undesired responses from non-delayed children. (Bricker and Bricker, 1972, pp. 6-7).

Similarly, Guralnick (1977) reports on preliminary data from a study conducted in the experimental preschool at the National Children's Center in Washington, D.C. which integrates handicapped and nonhandicapped children. Preliminary evidence from this study reveals no differences whatsoever in the constructiveness or appropriateness of the play of nonhandicapped children when playing in a homogeneously grouped setting as compared to a setting composed of children with widely varying developmental levels. Some reduction in the frequency of associative play did occur, however, in the heterogeneous setting, but associative play seems to be increasing over time as interaction patterns become more firmly established.

In a recent review of the use of nonhandicapped school-aged peers as change agents for the social behaviors of their handicapped classmates, Strain, Cooke and Apolloni (1976) note the absence of negative effects on the nonhandicapped children. These findings are consistent with results reported by cross-age tutoring programs with school-aged children in which benefits to those providing the tutoring, as well as benefits to the tutored, appear to be substantial (Allen, 1976).

Although the findings to date are reassuring, they are tentative, and additional explorations of the effects of integration on nonhandicapped children are needed.

Recommendations to Researchers and Educators

In all areas of research reviewed in this section a need for continued research exists. In general, replications of many of the studies are needed to determine if similar results will be obtained with different populations. Additionally, the following suggestions for future research are made:

1) Additional studies employing repeated structured observations of social and play behavior between handicapped and nonhandicapped children in integrated preschool settings are needed to provide normative data on the interaction patterns of children in such settings. Judgments cannot be made regarding the necessity for behavior change strategies in integrated settings until we know more about the social behavior in such settings.

2) Further research is also needed regarding the extent to which young children with pronounced physical disabilities are accepted by and interact with their nonhandicapped peers. It may be that young nonhandicapped children will react more negatively to obvious physical disabilities than to more subtle handicaps like speech, language, and mental deficits.

3) Another fundamental area not addressed to date in preschool mainstreaming research is the effect on social interaction of grouping children in structured activities. Are there optimal arrangements for grouping children according to developmental levels? Or according to interpersonal compatibility?

4) With respect to the influence of spatial arrangement, it might be appropriate to investigate the effects on social interaction of furniture arrangements (e.g., bookcases, storage areas, etc.). Do open spaces facilitate interaction more readily than closed areas? Can different patterns of furniture arrangement be identified and their effects on social interaction assessed?

5) Another fundamental unanswered question is, how effective are non-handicapped children in teaching academic and language concepts in structured instructional settings to their handicapped peers? Can teachers in small group settings train children as tutors or models while they focus attention on another, perhaps more disabled, child?

6) Another area in need of research is the nature of spontaneous language interactions in integrated preschool settings. One basic question in this area is whether nonhandicapped children adjust their language interactions to the level of the listener. If so, do these adjustments have significance in interactions with the language handicapped child?

7) Another fundamental need of research is to investigate the effects of placing children at different developmental levels in integrated settings. It seems plausible that developmentally delayed children would respond differently to peers of varying developmental levels. Researchers should begin to investigate the optimal developmental skill blend for integrated programs. This in turn provides the educator with data on how best to match handicapped and nonhandicapped children by developmental skill levels.

8) Another topic of investigation concerns the optimal ratio of handicapped to normal children in integrated settings. Do various ratios have a differential effect on the social and verbal behaviors of handicapped children? Of nonhandicapped children?

INTEGRATED PRESCHOOL PROGRAMS

Scattered throughout the early education literature are descriptions of preschool programs that have successfully integrated handicapped and nonhandicapped children. Several of the more prominent approaches to mainstreaming young children are briefly described in this section.

Center-based Integrated Programs

Kennedy, Northcott, McCauley and Williams (1976) have reported on a program that integrates selected hearing-impaired children into a regular preschool setting with their normally hearing peers. This project, jointly sponsored by the University of Minnesota, the Minnesota State Department of Education, and the Minneapolis Public Schools, serves hearing-impaired children from birth through six years of age. Among its distinguishing features are 1) an emphasis on early detection and intervention, 2) the inclusion of parents in the educational process, and 3) integration into regular nursery school programs whenever possible. The project developers conduct a careful follow-up of their graduates and report that a high percentage of these children are later integrated into regular classes in the elementary and secondary grades. Kennedy, et al. also investigated the social acceptance of a selected sample of hearing-impaired children by their normally hearing peers and found that their social acceptance was not significantly different, in general, than that of their hearing peers.

The program at the Liberty County Preschool in Bristol, Florida, is another example of a center-based integration program. Here, handicapped and economically disadvantaged children ages three to five are grouped with their nonhandicapped peers. A special feature of this preschool program is a resource classroom which handicapped children attend for part of the day and receive intensive, individualized instructional services.

Another integrated preschool approach is the Handicapped Early Childhood Assistance Program sponsored by the Child Care and Development Services of Los Angeles, California. This program has as a primary goal the identification of emotionally handicapped children (ages two to six) from low income homes and their integration with nonhandicapped children in a day care setting. Parents and paraprofessional aides study the basic concepts of child development and master techniques for educating young children. Techniques that parents and aides can implement to enhance social interaction between handicapped and nonhandicapped children are a significant current area of research and development in the Handicapped Early Childhood Assistance Program.

The Demonstration Diagnostic Intervention Model for Early Childhood at Houston, Texas serves handicapped children in integrated settings that vary from Headstart to Kindergarten programs. Initially, children are screened in hearing, distant vision, fine and gross motor coordination, language, learning skills, and social interaction. Children receive diagnostic services through individualized programs provided at model Kindergarten Learning Centers (KLC's). A highly skilled diagnostic team operates the KLC's within regular kindergarten classes and parent training programs.

Project PEECH (Precise Early Education of Children with Handicaps) is located on the Urbana-Champaign campus of the University of Illinois. PEECH serves children who are mildly to moderately handicapped as well as children who exhibit multiple handicaps. Children attend one of seven integrated classrooms, each of which serves approximately ten handicapped and five normal children. Each classroom has a certified teacher and one or two paraprofessionals. In addition, each handicapped child is served by an ancillary staff consisting of a psychologist, a language therapist, and an occupational therapist, all of whom aid the classroom teacher in writing individualized educational programs

for each child and provide specialized instructional services for the handicapped child both in therapy rooms and within the classroom itself during free play and small group activities.

The core of the PEECH Approach is the individualization of educational objectives for both handicapped and nonhandicapped children. Instructional objectives are developed for each child in six areas of functioning: language, social, self-help, math, gross motor, and fine motor. Programming toward each child's strengths and weaknesses is stressed. An initial assessment of each child is made through systematic observation of the child's functioning using a classroom assessment instrument entitled SCOAP (Systematic Classroom Observation Assessment and Programming) that was developed at the University of Illinois and is currently undergoing field testing at the PEECH replication sites.

The content and sequence of curriculum components used in PEECH are based on developmental guidelines. In this way, programming for handicapped and nonhandicapped children on the same set of normalizing objectives is possible.

In addition to instructional activities, numerous less structured activities, including various play, music, art and other events, form additional key components of the PEECH Program and constitute the majority of the day's activities. Children from all developmental levels are integrated and the processes and techniques related to reaping certain potential benefits from the interactions of children at various developmental levels are systematically applied. The extensive involvement of children at different developmental levels during play and other social and cultural activities reflects both the relative ease with which integration can occur in these more dynamic and free-flowing activities as well as the potential benefits of these interactions for the less advanced children.

PEECH, as a validated project, is currently responding to the needs of replication sites throughout the country by further investigating methods for promoting social integration. Among the methods currently under study are peer modeling, peer reinforcement, peer imitation in the classroom, and the structuring of learning centers to promote social integration.

Transitional Programs

In Saginaw, Michigan, Project PAR prepares mentally handicapped four- and five-year-old children for placement in regular classes in the public school. PAR is coordinated with the Saginaw Public School System and helps preschool children through a quality day care program to develop the skills and behaviors which ensure success in public school kindergartens.

Another project designed to help handicapped preschool children enter regular classrooms in the public schools is GOOD START, located within the Washington, D.C. Public School System. Eligible children are those who have never attended school or who have attended school in the primary grade but now need additional help for part of the school day before full placement in a regular program can be achieved. The program serves children from five to seven years of age for a half-day, five days a week.

The Behavioral Sciences Institute, Carmel, California, has developed an Accountable Re-entry Model (ARM) for handicapped children ages four to eight. The major objective of this project is to demonstrate that handicapped children, with systematic and programmed assistance, can re-enter the mainstream. Children attend both a special class and a regular class until they demonstrate the academic, social, and motor skills needed to sustain them in the regular class. Parents and aides work directly with children in the special classroom.

The Diagnostic Resource Unit of the Martin Luther King, Jr. Child Development Center, in Atlanta, Georgia, is working to integrate handicapped children into regular programs. The initial plan integrates three handicapped children into each of six local programs. Center staff offers local staff diagnostic and resource assistance.

Project Maine Stream, located in Cumberland Center, Maine, also serves as a consultant center for local nursery school teachers who have handicapped children integrated into their classrooms. A similar consulting function is provided by teachers, students and faculty members at the integration model associated with Framingham State College, Framingham, Massachusetts.

Open Education Integrated Approaches

A prominent example of an integrated open classroom for preschool children is the Eliot-Pearson Children's School which serves as the laboratory school of the Department of Child Study, Tufts University, Boston. Approximately one hundred children, ranging in ages from two-and-one-half to six years, attend Eliot-Pearson. Approximately twenty percent of these children are handicapped, ranging in severity from mild to moderately handicapped and including cerebral palsy, developmental delay, speech impairment, orthopaedically handicapped, hearing impaired, emotional disturbance, epilepsy, learning disability, and Down's Syndrome. Students and faculty at Eliot-Pearson are currently investigating the unique problems associated with integrating handicapped and nonhandicapped children in open education environments.

In the learning center of Federal City College, Washington, D.C., handicapped children ages two to six are integrated into an open education environment with nonhandicapped peers. Weekly training sessions for the staff are open to parents and concentrate on helping teachers meet the special needs of educating handicapped children in open environments.

Project RAPYHT (Retieval and Acceleration of Young Handicapped and Talented) at the University of Illinois is another example of a preschool children program which integrates handicapped and nonhandicapped in an open classroom. RAPYHT, however, also offers a structured program based on the Guilford model of intelligence. A unique feature of RAPYHT is its attempt to identify and serve gifted children who are also handicapped and to integrate gifted handicapped children with nonhandicapped children.

Research-based Integration Programs

Bricker and Bricker (1971, 1972, 1973, 1976) have developed an early intervention project at the Mailman Center in Florida that integrates developmentally retarded toddlers with normally developing nonhandicapped children. Their investigations focus on the effects of integration on the nonhandicapped child. As mentioned earlier, the Brickers conclude, on the basis of data collected through standardized tests, structured behavioral observations, and anecdotal information, that the development of the nonhandicapped child is not adversely affected by integration. In addition, evaluation of the responses of parents of the nonhandicapped children were positive and generally supportive of the program.

Researchers at the Teaching Research Infant and Child Care Center, Monmouth, Oregon, are currently investigating the feasibility of integrating severely handicapped preschool children into a normal program with nonhandicapped peers. Preliminary results suggest that, given a highly trained staff capable of delivering highly specialized services, severely handicapped preschool children can be mainstreamed and will benefit from systematic exposure to normally functioning peers. The results also suggest, however, that mainstreaming the severely handicapped into normal preschool settings is probably not feasible

on a widespread basis and will be restricted to settings with highly trained personnel and a very low student-teacher ratio (e.g., 2 to 1).

The Sonoma County Office of Education, in collaboration with Santa Rose Junior College and California State College, currently directs three projects that provide integrated educational experiences to handicapped and normally-developing youngsters from six months to six years of age. The functional level of the handicapped children ranges from severely/multiply impaired (I.Q.: 25) to mildly delayed (I.Q.'s: 65-85). A major goal of the Sonoma project is to generate educationally effective strategies for promoting social interaction between handicapped and nonhandicapped children that can be replicated. The current area of research interest at the Sonoma project is peer imitation training.

Allen, Benning, and Drummond (1972) report on a program which integrates eight normal and eight handicapped preschoolers at the Experimental Education Unit of the University of Washington. Relying primarily on an applied behavior analysis approach, the focus of their work has been to eliminate the maladaptive social behaviors which normally serve to exclude handicapped children from the mainstream classroom.

Michael Guralnick (1976) reports on work conducted at an integrated preschool in the National Children's Center in Washington, D.C. The development of replicable strategies for using nonhandicapped preschoolers as intervention agents in the development of their handicapped peers is an important area of research here. In general, Guralnick's studies, which were reviewed earlier in this paper, suggest that the presence of nonhandicapped children has an independent positive effect on their handicapped peers.

The list of integrated presthool projects reviewed here is extensive but by no means exhaustive. Numerous other integrated approaches are reported in

the preschool literature. These include Head Start programs (Klien & Randolph, 1975) and programs integrating hearing impaired (Luterman and Luterman, 1974; Pollack and Ernst, 1973) and blind (Tait, 1974) preschoolers with their normally-functioning peers.

ISSUES

Preschool integration offers exciting challenges and raises a number of issues. In part, these issues are common to all early childhood intervention programs but become more complex with heterogeneous populations. In this final section, seven basic issues pertaining to the integration of handicapped and nonhandicapped preschool children are identified: 1) preservice training, 2) inservice training, 3) training for university faculty, 4) preschool models for integrating handicapped and nonhandicapped children, 5) the integration of severely impaired preschool children, 6) criteria for least restrictive placement, and 7) the evaluation of integrated preschool programs.

Preservice Training

Successful mainstreaming in preschool settings will necessitate substantial modifications in the preservice training of all future preschool teachers. The crucial issue involved here is, who will teach in integrated preschool settings? Presently, training programs prepare teachers to work exclusively with either handicapped or normal preschool children. Course work for these two groups differs, and programs for teachers of the handicapped emphasize assessment, evaluation, and behavior management. The critical questions seem to be: 1) Should we prepare teachers of normal young children to teach the mildly and moderately handicapped? 2) Should teachers of the handicapped be trained to work with normal young children as well? 3) Should resource specialists be trained to work with young children with a variety of handicaps?

Inservice Training

An intensive program of ongoing inservice training for all staff personnel is an important component of any integrated program for at least two reasons. First, problems associated with any preschool program become more complex when

that program integrates handicapped and nonhandicapped children. Teachers in such preschools must stay abreast of current developments in research and practice. Secondly, many teachers and ancillary personnel active in preschool programs have never worked with handicapped children but soon will be required to do so. It is of critical importance to disseminate basic knowledge about handicapped children to such personnel and to monitor their attitudes toward handicapped children.

What competencies should be included in inservice training? These may vary with the site, but the following competencies are essential: 1) mastering identification and screening procedures, 2) conducting diagnostic evaluations, 3) promoting language development, 4) achieving strong parent involvement, 5) ensuring the total development of the child, 6) implementing a comprehensive and efficient data collection, 7) securing and maintaining administrative support, and 8) individualizing instruction.

How should inservice training be implemented? Generally, university personnel will visit a site and provide recommendations for program development. In addition, since inservice training plays such an important role in the future of mainstreaming, the following guideline is offered:

1) All staff personnel -- teachers, administrators, psychologists, therapy personnel -- should hear the same things because all personnel contribute to the success of a program. The concept of equality within the inservice program is essential. Inservice training is a learning situation and no place for hierarchical groupings. Administrators and board members must divest themselves of whatever status their titles imply and become part of the learner group. The reality of the situation is that all school personnel have had minimum exposure to the concept of mainstreaming.

2) Inservice education must become an integral part of the school program. It cannot be an appendage to an already full day of work. Rather, the inservice program must be part of the school day. The administrators who have initiated the concept of mainstreaming and are committed to its success in a preschool environment must devise and authorize ways to ensure that training. This may mean providing days during the school calendar year when children will not be in attendance or employing substitutes to release teachers who are participating in inservice training.

3) Inservice education will require the cooperation of local colleges and universities and their faculty members. Funds must be allocated by members of the board of education to employ consultants on a continuing basis. Often skilled personnel within special education departments can assume responsibility for aspects of the inservice program.

4) All staff members must participate in inservice training. Attendance cannot be voluntary.

Training University Faculty

Mainstreaming training for preschool teachers will require the early childhood educators as well as special education faculties to participate in joint planning and program development. If course work regarding handicapped students is merged with courses in the regular education curriculum, special education faculty members must act as resource consultants to the regular education faculty. There are other cooperative endeavors that these faculties might initiate. They could aid each other in preparing reading lists and resource guides; they might team teach courses, they could develop joint research programs; and they might work together to adapt already existing curriculum materials.

Preschool Models for Integrating Handicapped and Nonhandicapped Children

Most effective early-childhood intervention programs, whether or not they are integrated, tend to be conducted within an identifiable educational or developmental framework. A program's theoretical base and corresponding educational activities are likely to place limits on its ability to provide an effective integrated program. The critical issue for the field of early education is to identify the components of a given education approach that will influence its success in integrating handicapped preschool children.

Integration of Severely Impaired Preschool Children into Regular Classrooms

Most educators who support mainstreaming are willing to accept the feasibility of integrating mild and moderately handicapped children with their normally functioning peers. Few, however, advocate mainstreaming with severely handicapped children. First, the severely handicapped are more likely to manifest bizarre and inappropriate behaviors that disrupt classroom routine (Smith and Arkans, 1974). Secondly, the severely handicapped child's behavioral repertoire may be so limited that he is unlikely to profit from behaviors modeled by nonhandicapped peers. Still, recent unpublished evidence from an ongoing attempt to integrate severely handicapped preschool children in a regular classroom environment suggests that in a highly structured setting exposure to normally developing children can promote the development of severely impaired children (Fredericks, et al., 1975).

More specifically, Fredericks, et al. assessed the effects of integration on three autistic children who manifested a wide variety of behaviors, including echolalic language and repetitive self-stimulatory behavior. Two behavioral areas were assessed, social play and language. The authors were interested in assessing the extent to which the social behavior and language development of the severely handicapped child would be altered by exposure in a free play setting to nonhandicapped children.

The authors hypothesized that a number of specialized teaching procedures would have to be implemented to promote social behavior:

1) To facilitate movement from unoccupied behavior into solitary, independent play, an autistic child was placed near nonhandicapped children and encouraged to play with a toy or object while remaining within that environment or observing other children.

2) To facilitate movement to parallel activity from either the onlooker or solitary play levels, the teacher reinforced the child for proximity to other children and for playing with toys similar to those used by the others. The teacher also encouraged the normal children to share toys with the handicapped child and reinforced them when they did. During these activities, the autistic child was placed among normal children, not on the fringes of the group.

3) To facilitate associative play, the teacher arranged a setting in which all normal peers could engage in play with the handicapped child and reinforced them for conversation and sharing of objects with the handicapped child. The handicapped child was also reinforced for playing with normal peers. If the handicapped child stepped out of the setting, the teacher directed the handicapped child to engage in that activity once again and reinforced him when he entered or re-entered the group.

Similarly, extensive guidelines for facilitating increased interaction between the autistic children and their nonhandicapped peers were devised:

1) The teacher reinforced all verbal and nonverbal communication by the handicapped child in the treatment setting.

2) The teacher directed child-child interaction.

3) The teacher reinforced nonhandicapped children when they initiated interactions with and/or responded to handicapped children in the treatment setting.

4) To increase the percentage of time that a handicapped child interacted with a nonhandicapped child, the teacher encouraged or directed the handicapped child into appropriate play situations.

5) When peers did not respond to the handicapped child, the teacher modeled an appropriate response for the peer and reinforced the peer for adopting that response.

6) The handicapped child was encouraged to increase his usage of words at all times when interacting with peers. When the handicapped child did not use spontaneous intelligible language with word phrase lengths appropriate for the child's current level of language development, the teacher modeled this usage, and prompted the handicapped child to imitate this language, and reinforced him when he did so.

Toward the end of intervention, the three autistic children had increased the level of play behavior in the presence of nonhandicapped children from that of onlooker to that of associative play. Very few instances of cooperative play were recorded. Similarly, the autistic child's level of language usage increased dramatically in terms of initiated verbal responses to other children. Additionally, no deleterious effects were noted in the nonhandicapped peers. Unfortunately, no maintenance or generalization data are reported in the study.

The Fredericks, et al. study by no means resolves the question of whether or not severely handicapped preschool children can be integrated into normal settings. Rather, the study points out many problems in mainstreaming the severely handicapped. One problem is the extensive expenditure of time and resources. The study was conducted for five months, using one full-time teacher for approximately twenty minutes a day. In a non-university setting such a time line would be prohibitive. A second problem concerns the level of staff training. It is unlikely that early childhood educators in the field are as

skilled in behavioral techniques as the experimentor in this study. Perhaps for the forseeable future, the mainstreaming of severely handicapped preschool children will be restricted to university settings where a sufficient number of highly trained personnel is available.

Criteria for Least Restrictive Environment

Young handicapped children with varying degrees of disabilities currently receive educational services in one of the following settings:

1) Self-contained schools on the grounds of residential facilities

2) Self-contained private schools

3) Self-contained public schools

4) Self-contained classes within regular schools

5) Regular classes within regular schools

These placements represent a continuum from the most to the least restrictive environment. According to P.L. 94-142, the placement of children in each of these environments must be justified. Yet, in preschool education, no criteria exist. While we offer no criteria here, the following considerations should be useful in establishing criteria:

1) the development of standardized checklists of behaviors, based on developmental guidelines, for functioning levels in each environment

2) the ratio of handicapped to nonhandicapped students

3) the extent to which environments will need to be prosthetized to support handicapped children

4) the extent to which the organization of the school day and the content of curriculum resembles a regular class environment

5) the extent to which children require specialized ancillary services.

Evaluation of Integrated Preschool Programs

A final issue to be discussed concerns the most appropriate dimensions on which to evaluate integrated preschool programs. In the past, integrated programs for older children have depended upon pre-post standardized intelligence measures. But, as has been noted many times (e.g., Evans, 1974, 1971), such measures are often unreliable with young children, especially the handicapped.

Instead, success in integrated programs can be evaluated in a number of ways. First, and most significantly, an integrated program can be assessed for its ability to meet the developmental needs of children. Second, benefits received by handicapped children that are directly linked to involvement with nonhandicapped children must be examined. For example, does the observation by handicapped children of their nonhandicapped peers facilitate learning? Third, the extent to which a program promotes positive social contacts between handicapped and nonhandicapped peers may be evaluated. Fourth, the satisfaction of parents of handicapped and nonhandicapped children should be assessed, as well as the attitudes of the parents of normal children toward the handicapped children. Fifth, later school adjustment of handicapped and nonhandicapped children who attended integrated preschools will need to be examined. Each of these assessments will require the adaptation of existing instruments and the development of new instruments for appropriate and sensitive evaluation.

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