

FOCUS ON EXCEPTIONAL CHILDREN

MAINSTREAMING: TOWARD AN EXPLICATION OF THE CONSTRUCT

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CONCEPTUAL IMPLICATIONS OF MAINSTREAMING

A fifty-year history of self-contained special education classes as the predominant organizational arrangement for mentally retarded children is rapidly coming to a close. During the past six years, thousands of children who had previously attended special classes have been returned to regular grades, usually with more educational support than is traditionally offered to nonhandicapped children. Furthermore, many educable mentally retarded children who would have been placed in segregated classes are no longer being removed from their regular class program. Instead, they are receiving special services in a manner which permits them to remain members of a regular classroom.

THE IMPETUS FOR MAINSTREAMING

There have been three major influences providing the impetus for special education to implement mainstreaming services: professional educators, court decisions, and state governmental policies. Each of these will be examined briefly.

Educators' Influence

Concern by educators regarding the most appropriate class placement for mentally retarded children is not new; it began appearing in the literature at least 40 years ago when Bennett (1932) conducted the first of the so-called "efficacy" studies. The efficacy research consisted of a number of studies which compared the desirability of special and regular classes for educating mildly retarded children. Kirk (1964) concluded from the results of these studies that mentally retarded children achieved more academically in the regular grades but appeared to be better adjusted socially in special classes. Educators have used these results as a "scientific" basis for the promotion of mainstreaming efforts. The paradox of the efficacy research data was raised when Johnson (1962) questioned why mentally retarded children achieved more academically in regular classes than in special classes when the latter had fewer pupils, supposedly better trained teachers, and

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more financial resources available on a per capita basis. Johnson's report, however, had little impact in modifying the organization or orientation of special education. It was not until Dunn (1968, p. 5) exhorted special educators to "... stop being pressured into a continuing and expanding special education program (*special classes*) that we know now to be undesirable for many of the children we are dedicated to serve" that other educators began, en masse, to voice their concerns about the inadequacies of segregated classes. Labeling and stigma were the most frequently cited concerns as to why self-contained classes were thought to be deleterious to children. To illustrate, Dunn (p. 9) claimed that "removing a child from the regular grades for special education probably contributes significantly to his feelings of inferiority and problems of acceptance."

Educators responded to criticisms such as Dunn's by altering the focus of special education from a predominantly alternative program approach to include a more general service orientation. The rationale for this alteration was based on the belief that it would

1. Remove the stigma that is associated with special class placement
2. Enhance the social status of mentally retarded children with their nonhandicapped peers
3. Facilitate the modeling of appropriate behavior as exhibited by nonhandicapped peers
4. Provide a more cognitively stimulating peer environment

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5. Provide the mentally retarded child with competitive situations which the mildly impaired must eventually experience
6. Provide a more flexible vehicle from which to deliver educational services
7. Enable more children to be served, thereby providing a more cost-effective education
8. Provide decentralized services, avoiding the need to transport mentally retarded children out of the neighborhood
9. Avoid the legal issues involved in segregated classes
10. Be more likely to be acceptable to the public, especially among minority groups.

Finally, as a result of the general pressure placed on special education administrators to change the structure of special education, they rapidly began to implement those services they perceived to require only slight modification in orientation or delivery to be considered as mainstreaming.

Influence of Court Decisions

A second impetus for the trend toward mainstreaming services has been the courts. Concern for the appropriate placement of mentally retarded children is embedded in the larger issue of discrimination and basic civil rights. To date, at least 36 cases have appeared before state and federal courts which have been focused on guaranteeing the exceptional child the right to an education, the right to appropriate treatment, and the opportunity for appropriate placement (NSPRA, 1974; Abeson, 1974). Of particular importance to the development of the mainstreaming movement was a 1971 opinion by the U.S. District Court for the Eastern District of Pennsylvania that "... placement in a regular school class is preferable to placement in a special public school class." This opinion as well as other court rulings have influenced several state legislative bodies to enact laws specifying regular class placement as preferable to special class placement (Tennessee, 1972, Wisconsin, 1973). Given this precedent it is not surprising that mainstreaming services are expanding.

Influence of State Governmental Policies

In certain states, policies of the state education agency concerned with allocating fiscal resources to establish and deliver educational services to exceptional children have either reinforced or discouraged local education agencies in implementing mainstreaming services. Three alternative funding formulas for special education are illustrative of

the influence fiscal policies have on the implementation of mainstreaming services. The first fiscal procedure to be presented encourages mainstreaming by permitting the mentally retarded child to be included in the funding formula for regular education (Georgia, Texas). The second example of fiscal policy relates to the effects of funding procedures which employ a weighted equivalency formula (Fla. Stats., Sec. 236.081). The final example is indicative of fiscal policies which permit the mentally retarded child to be eligible either for special or regular education funding, but not for both (New Mexico Stats., Sec. 77-18.4).

Several states (e.g., Georgia, Texas) employ different pupil accounting procedures for exceptional children depending on whether or not the child is receiving mainstreaming services. Fiscal reimbursement policies have operationally defined mainstreaming on a temporal basis. As an example, Georgia fiscally defines a mainstreamed child as one who spends more than half of the school day integrated with nonhandicapped children (Ga. 30-1100-30-1110). The differential pupil accounting procedures for mainstreamed or segregated mentally retarded children depend on whether they are eligible for inclusion in the funding formula for regular education programs. The mainstreamed mentally retarded child is eligible for inclusion in the formula for regular education program funding whereas the segregated mentally retarded child is not. Differential pupil accounting procedures for mainstreamed children not only provide funding for special education costs but also provide fiscal incentives to support regular education programs by allowing the mentally retarded child to be included in that funding formula too. The mainstreamed mentally retarded child thus generates fiscal resources not only for special education but also for regular education. Consequently, mainstreaming is encouraged through an incentive which provides additional fiscal resources to regular education which are usually unavailable under other funding formulas.

A second type of funding practice for special education is characterized by a weighted equivalency formula (Fla. Stats., Sec. 236.081). Under such a paradigm, local education agencies are reimbursed on a computed cost per category of exceptionality multiplied by percent of time in special education. Thus the greater the amount of time in special education, the greater the amount of reimbursement. It is apparent that mainstreaming is discouraged by states utilizing the weighted equivalency method of reimbursement.

Another state fiscal policy which discourages mainstreaming occurs when special education programs are funded on the basis of a specific number of predetermined

eligible retarded children being identified, while at the same time regular programs are funded on the basis of a fixed number of nonhandicapped children per classroom unit (New Mexico Stats., Sec. 77-18.4). This funding arrangement lacks the fiscal incentive to encourage mainstreaming because it permits an identified eligible mentally retarded child to be considered only as part of the regular or special education pupil accounting procedure, but not both. Funding for mentally retarded children is provided to special education programs while no additional funds are provided to regular education for serving the retarded child. As a result, little mainstreaming of mentally retarded children occurs. This is in contradistinction to the first funding paradigm discussed above where the mentally retarded child is eligible for inclusion in both special and regular education funding formulas.

In summary, three forces have been identified as the primary levers in affecting the evolution of the mainstreaming movement. The empirical and philosophical influences of professional educators, the influence of judicial decisions and opinions, and the effects of state fiscal funding policies have operated, singularly or interactively, to influence the development of mainstreaming services. Unfortunately, neither the professional educators, the courts, nor the states have developed a comprehensive conceptual structure of mainstreaming upon which to base the various aspects of the services implied by the construct. Perhaps this omission reflects a lack of understanding of the mainstreaming concept.

WHAT IS MAINSTREAMING?

The provision of equal educational opportunities for mentally retarded children requires the establishment of delivery of high quality comprehensive educational programs and services. Mainstreaming may be regarded as a range of administrative and instructional options available as part of the comprehensive educational services provided for mentally retarded children. It has not evolved as a single option but as a range of instructional directives as well as an array of organizational arrangements and staff utilization patterns. The multiple service options inherent in mainstreaming efforts are in contrast to the initial conceptualization and organization of special education as an educational program separate from regular education.

Although the term "mainstreaming" permeates much of the recent literature in special education, a precise definition of the term has remained elusive. For example, in his definition of mainstreaming Birch (1974) incorporated 14 descriptors, not to mention a panoply of related nomenclature, that have resulted from mainstreaming practices.

Beery (1972), while not defining mainstreaming directly, suggested that it be critically examined for three elements: that it provides for a continuum of programs for children who are experiencing difficulty, that it accomplishes a reduction of "pull-out" programs, and that it calls for specialists to work in the regular classrooms as much as possible.

Perhaps the one common denominator in definitions of mainstreaming is that they include a provision that mentally retarded children should be educated, at least in part, in the regular classroom (e.g., Massachusetts, 1974). How much education mentally retarded children should receive in regular classes has been the subject of some controversy. Lilly (1970) advocated a "zero-reject model" which implied that no mentally retarded child should be "rejected" from the general education program and placed in special classes. The CEC Policies Commission (1973, p. 494) adopted a policy that "children should spend only as much time outside regular classroom settings as is necessary to control learning variables. In order to modulate the pendulum swing and decrease the emphasis on integrating mentally retarded children into regular programs, Adamson and Van Etten (1972) indicated that no single educational program is beneficial to all children and that some children may benefit from special class placement.

It is noteworthy that definitions and comments pertaining to mainstreaming which appear in the literature have focused more on administrative considerations (e.g., the amount of time spent in regular classrooms) than on instructional variables (e.g., the instructional activities in which the child should participate when he attends the regular class). Quite possibly, the emphasis on administrative concerns reflects the prevailing view among researchers and practitioners that mainstreaming is primarily an administrative arrangement and is only secondarily, if at all, an instructional approach.

Focus on the administrative aspects of integrating mentally retarded children into regular grades has led to the predominant view of mainstreaming as a temporal dichotomy. From this perspective, mainstreaming occurs when mentally retarded children spend an arbitrarily established portion of their school time enrolled in regular classes. When mentally retarded children do not spend the required minimum amount of time in regular grades, mainstreaming is not occurring.

It becomes readily apparent, however, that this view of mainstreaming as a temporal dichotomy is simplistic. Mainstreaming must take into account not only the amount of time that a mentally retarded child spends in regular classes but also the instructional activities in which the child partakes as well as his social involvement with

nonhandicapped peers. Johnson's (1950) admonition that mentally retarded children in regular classes may be physically integrated but socially and psychologically isolated must be seriously weighed in any discussion of mainstreaming. A concise definition of mainstreaming that incorporates the many complexities inherent in describing the interrelationships between a mentally retarded child's educational needs and the educational experiences offered in the regular classroom is clearly necessary.

Mainstreaming Defined

In an effort to provide a conceptual framework of mainstreaming that encompasses its various complexities, the following definition is offered:

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.

Thus, the definition of mainstreaming encompasses three major components which require elaboration: *integration*, *educational planning and programming process*, and *clarification of responsibility*. These components and their elements are depicted schematically in Figure 1.

Integration

Within our definitional framework, integration is a necessary component of mainstreaming; it is not synonymous with it. There are at least three elements of integration that could affect a mentally retarded child's educational experience: *temporal integration*, which refers to the amount of time that a child spends in regular classrooms with nonhandicapped peers; *instructional integration*, which refers to the extent to which the mentally retarded child shares in the instructional environment of his classroom; and *social integration*, which refers to the mentally retarded child's physical proximity, interactive behavior, assimilation, and acceptance by his classmates.

Temporal Integration. The underlying assumption of temporal integration is that the greater the amount of time the mentally retarded child spends with normal peers, the more positive will be the social and/or instructional outcomes expected for him. Support for this contention may be obtained from several sources. Carroll (1963) advanced a model of school learning in which the time variable was the critical dimension. Specifically, the school related time dimension included opportunities such as time allowed for learning. Carroll advanced a formula that

degree of learning could be conceptualized as a function of time spent in learning divided by the time needed for learning. Additional support for considering time as a critical factor is provided by Wiley (1974, p. 3) who suggested that "under ordinary circumstances, we will value the effect of a given amount of schooling the more, the larger it is." The question which can now be posed then is, what effect does a particular amount of schooling have on a mentally retarded child's social and/or instructional outcomes?

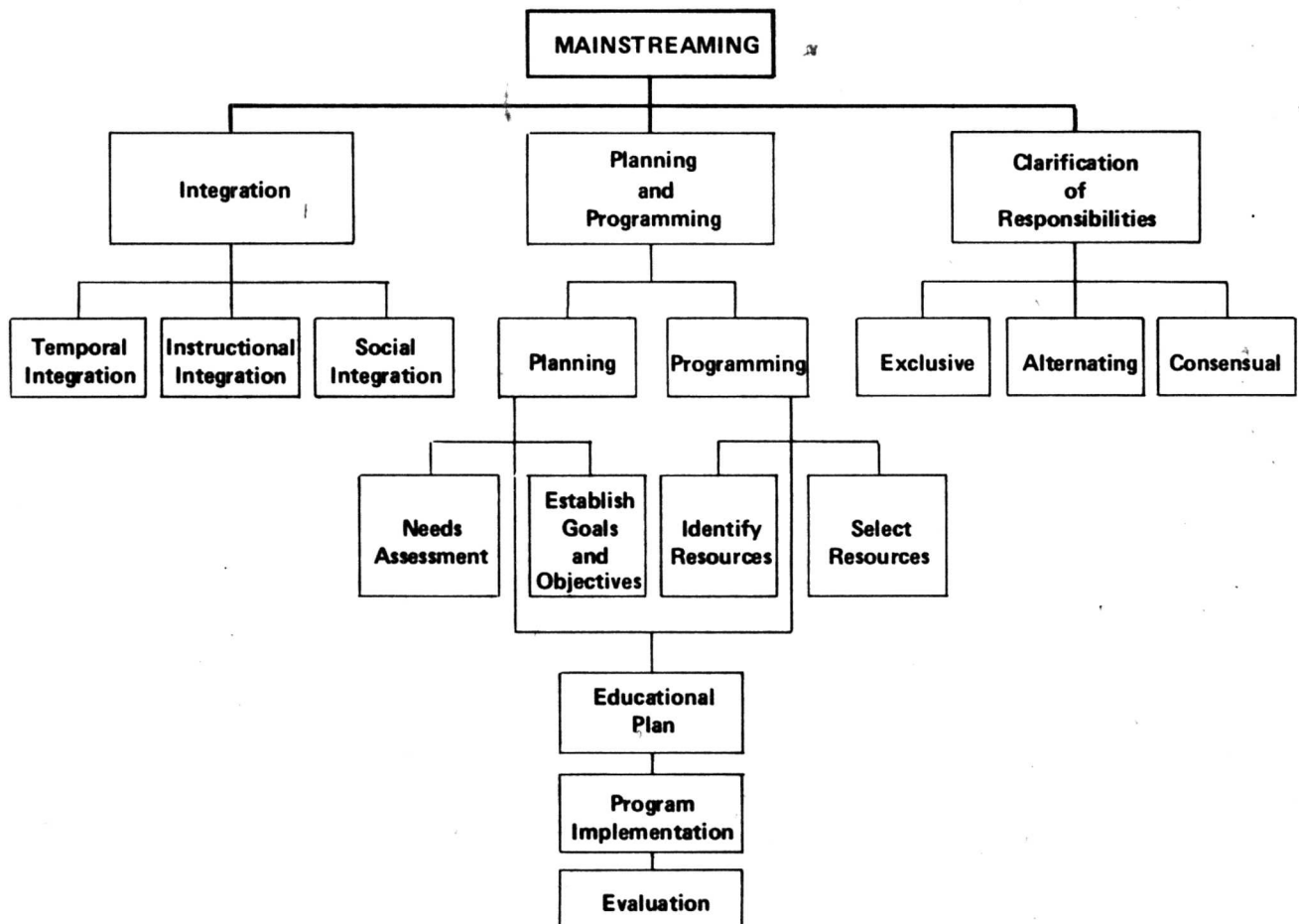
It is generally assumed that temporal integration will benefit the mentally retarded child. Temporal integration should be beneficial to the retarded child because it provides opportunities for him to become familiar to his nonhandicapped peers and, hopefully, more socially acceptable (Christoplos & Renz, 1969). In addition, the more time mentally retarded children are integrated into regular classes, the greater should be the opportunity for them to

model appropriate behavior exhibited by nonhandicapped peers. Finally, the more time mentally retarded children spend in regular classes, the more they will be exposed to the cognitive stimulation generated by the regular class.

Consideration of temporal integration as a treatment is given additional credence when viewed from an administrative vantage point. As previously mentioned, certain state education agency fiscal policies employ amount of time mentally retarded children are integrated into regular programs as the criterion for determining pupil accounting procedures. Mainstreaming has been defined in the fiscal policies of several state education agencies as occurring when the retarded child spends 50% or more of the school year with nonhandicapped children (e.g., Georgia, Texas).

Thus, conceptually and administratively, temporal integration should be considered as one element of integration and as an independent variable which in and of itself may affect child outcomes.

Figure 1
STRUCTURE OF MAINSTREAMING



Instructional Integration. The second element of the integration component of mainstreaming concerns the extent to which the mentally retarded child shares in the instructional environment of the regular class. For instructional integration to occur, three conditions of compatibility must exist. First, a retarded child's learning characteristics and educational needs must be compatible with the learning opportunities provided to non-handicapped peers in the regular classroom. Second, compatibility must exist between a mentally retarded child's learning characteristics and educational needs and the regular classroom teacher's ability and willingness to modify his instructional practices. Third, the special education services provided to a mentally retarded child (such as resource room help) must be compatible with and supportive to the regular classroom teacher's instructional goals for the child.

Instructional integration is perhaps the most critical component of mainstreaming, because it addresses the issue of how to coordinate and implement an effective educational program for a mentally retarded child. Not surprisingly, it is probably the most difficult component of mainstreaming to execute properly. The difficulties can best be illustrated by referring back to the three compatibility conditions that form the foundation for instructional integration and observing some of the potential impediments that could interfere with their implementation.

The first compatibility condition is between the child's needs and the learning opportunities that are available in the regular classroom. Inherent in this first condition is the assumption that the mentally retarded child's educational needs are best fulfilled by emphasizing those areas of academic skill and content acquisition that are emphasized for nonhandicapped children. Historically, however, there has not been consensus on what the mentally retarded child should be taught. Considerable attention has traditionally been focused on the social and occupational needs of mentally retarded children (e.g., Gunzberg, 1965; Kolstoe, 1970). The practice of watering down the regular class curricula (Innskeep, 1926) to accommodate the abilities of retarded children has been criticized (Kirk & Johnson, 1951). Appropriate implementation of instructional integration must address the question of what instructional experiences are appropriate for mentally retarded children.

The second compatibility condition concerns the mentally retarded child's learning characteristics and educational needs, and the regular classroom teachers's ability and willingness to modify his instructional practices. There is little specific evidence, however, as to the willingness of

regular teachers to modify their instructional practices to accommodate mentally retarded children in their classes. If one assumes that teachers' attitudes toward retarded children reflect their willingness to modify their instructional practices, there is reason to doubt that the necessary modifications will be made. The literature related to regular classroom teachers' attitudes toward mentally retarded children indicates a generally nonaccepting pattern of response (Gottlieb, 1974). Clearly, the regular classroom teacher's receptivity and instructional adaptability to mentally retarded children are critical considerations when integrating for instructional purposes.

The third compatibility condition requires that regular and special education personnel provide the mentally retarded child with an appropriately coordinated and well-articulated educational program. Historically, however, special education has been characterized by organizational arrangements and staff utilization patterns having a segregated program focus. Mainstreaming requires the development and implementation of new organizational arrangements and staff utilization patterns which permit appropriate interfacing of regular and special education personnel. The evolution of special education from a segregated alternative program focus to include a coordinated service orientation with regular education will undoubtedly necessitate considerable knowledge, attitude, and behavioral changes on the part of both regular and special education personnel. How these changes are to be effected is still largely unknown, although many efforts in this regard are currently being studied (e.g., Chaffin, 1974). An inability to produce compatibility between regular and special education services would result in an ineffective, segmented educational program with different instructional goals and objectives being provided for a mentally retarded child.

Instructional integration, then, occurs when regular and special education services are coordinated to offer compatible instructional goals and objectives so that the mentally retarded child is neither isolated from the regular class activities nor required to perform beyond his level of ability.

Social Integration. Social integration refers to the relationship between eligible retarded children and their normal peer group. Social integration may be described in terms of physical proximity, interactive behavior, assimilation, and acceptance. The inclusion of four dimensions to define social integration avoids the circumscribed idea of socialization as being a one-dimensional construct confined to social acceptance. The four elements composing social integration do not represent a stage-dependent hierarchy. They are conceptualized, however, as having differential

values. Thus, physical proximity, interactive behavior, assimilation, and acceptance are posited as a value hierarchy of attitudes and/or behaviors. The nature of the relationships among the four elements of social integration requires clarification.

Physical proximity refers to the spatial distance between the retarded child and his nonhandicapped peer group. Interactive behavior, assimilation, and acceptance may or may not require a minimum level of physical proximity. Underlying the inclusion of physical proximity as a separate element of social integration is the assumption that the closer the proximity of the retarded child to his peer group, the more likely he is to have interactions, be assimilated, and/or be accepted to the extent that he exhibits appropriate behavior.

However, there are many situations where physical proximity is not a prerequisite condition to social acceptance. It is well known that many individuals are attracted to others without ever having been in contact or obtaining any information about them; that is, attraction occurs prior to physical proximity or interactive behavior. For example, the physically attractive person may be immediately accepted by his peers regardless of physical proximity, social interaction, or assimilation (Kleck, Richardson & Ronald, 1974). Also, various personality traits affect responsiveness to others, such as need for affiliation (Byrne, 1962). Thus, physical proximity should be considered as a separate element of social integration warranting investigation.

Social interactive behavior as an element of social integration refers to verbal, gestural, and/or physical communication between two or more people. Social interactive behavior requires attending, assessment of potential for involvement, overt behavioral expression, and the evaluation of the consequences of the overt behavioral expression. In terms of a social integration value hierarchy, social interactive behavior is a higher order index of social integration than is physical proximity. Social interactive behavior is assumed to be related to the attainment of peer assimilation and acceptance but is not necessarily a prerequisite to it. The complex nature of the relationship between social interaction and social acceptance has been noted elsewhere (Bryan, 1974; Gottlieb & Budoff, 1973). Therefore, social interaction behavior is considered a second element of social integration warranting attention.

Social assimilation refers to the inclusion of the retarded child in the ongoing social milieu of the peer group. Social assimilation occurs when the retarded child is acknowledged and actively included as a participant in the activities of his peer group. Social assimilation is a more valued index of social integration than social interactive

behavior because it denotes a willingness to include the mentally retarded child in the extant social milieu, whereas social interactive behavior denotes only the behavioral act of communication. Social assimilation is considered as a third element of social integration, distinct from physical proximity and social interactive behavior.

Social acceptance is the fourth and final element of social integration. It denotes peer approval of the retarded child. Social acceptance is distinct from social assimilation because being acknowledged and actively included as a participant in the peer group does not necessarily imply peer approval. Social acceptance is the most valued element in the hierarchy of social integration because it more directly fulfills one of the child's most basic needs—the need for approval (Jones, 1974).

In summary, although integration has been discussed as a triad of distinct elements, in reality they are mutually interdependent. The temporal, instructional, and social integration elements of mainstreaming are child- and situation-specific. The nature of a child's academic and social needs will greatly influence the appropriate integration opportunities which he is provided. Further, each element of integration affects and is affected by the others, depending on the specific ecology of a classroom. Thus, integration represents countless potential interactive effects in the mainstreaming gestalt.

Educational Planning and Programming Process

The complex interactions between the academic, social, and emotional characteristics of the mentally retarded child and the ecology of the regular classroom require coordinated planning and programming for providing appropriate and effective mainstreaming services. The purpose of implementing an ongoing, individually determined educational planning and programming process is to ensure an effective and efficient means for providing equal educational opportunities for each mentally retarded child.

Educational planning and programming is an ongoing cyclical process consisting of two elements—planning and programming. Planning refers to the assessment of a child's educational needs and the determination of goals and objectives related to the educational services required by the child. Programming refers to the identification and selection of regular and special education human, fiscal, and material resource alternatives available to provide the educational services required by a mentally retarded child. The cyclical process requires the synthesis of planning and programming information for developing an educational plan representing the educational services and resource allocations determined to be appropriate to meet the child's educational needs. The implementation of educa-

tional services and the commitment of resources consonant with the educational plan represents the child's educational program. Finally, the planning and programming process requires ongoing evaluation of the appropriateness and effectiveness of the mentally retarded child's educational plan and program. While this total process has applicability for providing educational services to all children, it will be discussed only in relation to the provision of mainstreaming to mentally retarded children.

Assessment of Educational Needs. The first step in the planning and programming process is the assessment of the mentally retarded child's educational needs. An educational needs assessment implicitly assumes the existence of a frame of reference in which to compare the mentally retarded child's educational performance. The frame of reference for considering provision of mainstreaming services should be the child's ability to benefit from the instructional activities and social milieu provided in the regular classroom. Specifically, the educational needs assessment should provide information concerning the child's academic, social, and emotional development. This information is necessary to determine appropriate strategies for effective instruction of the mentally retarded child.

Educational Goals and Objectives. Goals and objectives should be formulated in terms of the educational services required to meet the needs of the mentally retarded child. The nature and extent of the discrepancy between the educational needs of the mentally retarded child and the opportunities available in the regular classroom provide an index from which to determine the *intensity*, *content* and *location* of educational services required. The educational goals and objectives provide the basis for development of the child's educational plan.

Goals and objectives related to the *intensity* of educational services refer to both the amount of time special education services are required and the extent of individual academic and behavioral attention required by the mentally retarded child. The greater the discrepancy between the child's educational needs and the instructional activities and practices of the regular classroom, the greater the intensity of special education services which will be required.

Goals and objectives related to the *content* of educational services reflect the academic and behavioral skills to be taught as well as the strategies necessary for providing effective instruction. To the extent that the content of service goals and objectives of a mentally retarded child are incompatible with the instructional activities and practices of the regular classroom, modifications and/or alternatives to the regular instructional program will be required.

Establishment of educational goals and objectives related to intensity and content of services required by the mentally retarded child should provide the parameters necessary to determine goals and objectives concerning the appropriate *location* for delivery of educational services. Location refers to both regular and special education organizational arrangements (self-contained classroom, departmentalized classes, open classroom, resource room) and staff utilization patterns (resource teacher, helping teacher, itinerant teacher) which are necessary to deliver the child's educational services. The complexities inherent in determining the appropriate physical location for the delivery of educational services emanate in part from the lack of criteria for selecting appropriate potential organizational arrangements and staff utilization patterns.

Identification and Selection of Resources. The provision of appropriate educational services for each mentally retarded child requires the educational system to maintain information describing the availability and location of regular and special education resources, including instructional and supportive personnel, organizational arrangements, physical facilities, equipment, media, and materials. Within practical and political limitations, an educational system can manipulate time, assignment, use, access and/or availability of human, fiscal, and material resources. These resources, singularly or in combination, represent resource allocation alternatives for delivery of educational services.

The intensity, content, and location of services required by the mentally retarded child should be the basis for identifying all appropriate resource alternatives available within the educational system. Selection of appropriate resource allocations will necessitate determining whether current allocation of resources is consonant with the educational services required by a child or whether reallocation of resources must be considered. Having identified all appropriate resource allocation alternatives, a selection of *the* most appropriate one(s) is required. In order to provide appropriate mainstreaming services, educational decision makers must conceptualize and utilize available resources in a creative and flexible manner, consonant with meeting the educational service needs of each mentally retarded child.

Development of Educational Plan. The synthesis of the planning elements (educational needs assessment, determination of educational goals and objectives) with the programming elements (identification and selection of resource allocation alternatives) results in the formulation of an educational plan for each mentally retarded child. The individually determined educational plan represents a written commitment of *intent* by educational decision

makers regarding the type of educational services and resources to be provided a mentally retarded child.

Establishment of Educational Program. Implementation of educational services and *commitment* of resources consonant with the intent of the educational plan represent a mentally retarded child's educational program. The child's educational program will differ from his educational plan to the extent that decision makers having authority and responsibility for operationally implementing educational services and committing resources are unable to provide the services and resources required by the child's educational plan.

Evaluation of educational plan and program. The educational plan and program for a mentally retarded child should be responsive to the educational services he requires at any given point in time. Therefore, the educational plan and program provided a child necessitates *ongoing evaluation* in order to assess changes in pupil academic and behavioral performance. Evaluation information will provide the basis for determining the continued appropriateness and effectiveness of the educational plan and program for the mentally retarded child and ensure a means for providing continuous direction to the cyclical educational planning and programming process.

An ongoing, individually determined educational plan and program for the mentally retarded child can only be maintained when information is provided to educational decision makers who have authority and responsibility for mainstreaming mentally retarded children. Such information is necessary for promoting the coordination of planning and programming by regular and special education administrative, instructional, and supportive personnel.

Clarification of Responsibilities

The final component of the mainstreaming definition is the clarification of responsibilities. Clarification refers to the delineation and assignment of responsibilities necessary for effecting coordinated planning and programming by regular and special education administrative, instructional, and supportive personnel. The ongoing individual determination of educational plans and programs for mentally retarded children occurs within the context of a complex organizational structure.

The organizational structure in which mainstreaming services are provided is characterized by vertical and horizontal levels of independent, intradependent, and interdependent authority and responsibility (Braybooke & Lindblom, 1963). Vertical organization refers to the existence of multiple levels within the educational hierarchy. To illustrate, differential authority and respon-

sibility for the education of mentally retarded children is assigned to the superintendent, director of special education, principals, and teachers. In contrast, horizontal organization refers to a single level within the educational system. For example, both regular and special education instructional personnel represent a single horizontal level within the educational system having authority and/or responsibility to provide educational services to mentally retarded children.

Mainstreaming requires not only definition of administrative, instructional, and supportive responsibilities are assigned or assumed. Basically, the assignment or assumption of responsibilities can occur within three types of jurisdiction: exclusive, alternating and consensual. *Exclusive* responsibility refers to those situations in which an individual or program has independent jurisdiction. Exclusive responsibility is exemplified when either regular or special education has been given total responsibility for the overall educational planning and programming for a mainstreamed mentally retarded child. *Alternating* responsibilities occur when two or more individuals or programs have jurisdiction which is exercised interchangeably. For example, regular and special education instructional personnel may alternate responsibility for mainstreamed mentally retarded children, each assuming responsibility only for that segment of the child's educational plan and program which they directly deliver. The inherent limitation to alternating jurisdiction is that no individual or program has been assigned or has assumed total responsibility for the child's overall educational plan and program. Finally, *consensual* responsibility refers to jurisdictional areas which two or more individuals or programs jointly maintain. Consensual responsibility implies that although jurisdiction alternates between regular and special education instructional personnel, overall responsibility for the educational planning and programming of the mentally retarded child is shared. In order for regular and special education instructional personnel to exercise consensual responsibility for the overall educational plan and program of a mentally retarded child, formalized procedures must be implemented for communication, coordination, and cooperation.

Clarification of responsibilities and the nature of their assignment or assumption—exclusive, alternating, or consensual—is critical to the effective implementation of an ongoing individually determined educational planning and programming process. Whereas most educational functions are organizationally delimited to a single line of authority, mainstreaming requires an interfacing of regular and special education administrative, instructional, and supportive services.

Currently, many different organizational authority and responsibility patterns characterize the allocation of resources as well as the establishment and delivery of special education services. While separation and segmentation of authority and responsibility for any educational function may result in operational discordance, mainstreaming may magnify this effect. Often, educational decision makers who have authority for providing special education services are not the same individuals who have been assigned the responsibility for providing the services. For example, the director of special education is assigned the authority and the responsibility for establishing special education arrangements (e.g., self-contained classes, resource rooms) but the principal often maintains authority related to the allocation of space. Consequently, the principal, not the director of special education, may determine whether space will be provided for the delivery of special education services. The lack of clarity in responsibilities is often evidenced by different decision makers having responsibility for educational planning and programming. To illustrate, responsibility for planning—assessing the child's educational needs and establishing appropriate educational objectives—is often assigned to appraisal and/or instructional personnel. However, responsibility for programming—the allocation of human, fiscal, and material resources required to implement the educational plan—is typically assigned to administrative personnel. The potential result of the differential assignment of responsibility for planning and programming may be a discrepancy between the mentally retarded child's educational plan and his educational program. Thus the delineation and assignment of responsibilities among regular and special education administrative, instructional, and supportive personnel is essential to the provision of appropriate and high-quality educational services to facilitate mainstreaming.

In summary, mainstreaming refers to the temporal, instructional, and social integration of eligible mentally retarded 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. Each component of mainstreaming—integration, planning and programming, and clarification of responsibilities—is composed of several elements. The question of for whom and under what conditions mainstreaming is a viable educational alternative is only answerable when information is available concerning all of its components and elements. The definitional framework discussed above elucidates some of the complexities inherent in developing appropriate mainstreaming services. In addition, the framework provides a conceptual

model from which to study the effectiveness of mainstreaming services. What, then, are the implications of the definition of mainstreaming for research?

DEFINITIONAL IMPLICATIONS FOR RESEARCH

The goal of experimental design and inferential statistical analysis in scientific investigations is to obtain the least ambiguous information as to whether a "treatment" affected, in some manner, particular outcomes. Unlike laboratory research where the treatment variables are known, can be controlled, manipulated, and examined in microscopic fashion, most educational research conducted in situ cannot control treatment variables with any degree of precision. Most often, in situ educational research cannot even identify precisely what the treatment variables were because the variables themselves are macroscopic and loosely defined. Therefore, educational research that poses the question of whether one in situ treatment is more effective than another may be necessary but is hardly sufficient. Of greater importance is the identification of particular aspects of the treatment that are responsible for producing the outcomes of interest.

Mainstreaming research, which until now has been viewed primarily as an administrative arrangement, has typically been studied in a *between-groups* paradigm (e.g., Walker, 1972; Budoff & Gottlieb, 1974). That is, mainstream programs and segregated programs have been compared and conclusions made that one or the other treatment was more effective. The between-groups approach assumes a homogeneity within each treatment group. Put another way, this paradigm assumes that segregated and mainstreamed special educational services will reflect greater variation between than within treatment conditions. The between-groups approach for studying the effects of mainstreaming, however, appears overly simplistic within the context of the multidimensional definition proposed in this paper.

Given the complexity of mainstreaming constructs, a between-groups research paradigm provides information of very limited utility for decision-making purposes. This paradigm only provides superficial information that global administrative distinctions (e.g., special classes versus mainstreaming services) produced differential pupil outcomes. The information obtained from a between-groups paradigm provides little insight regarding specific aspects of either the segregated or the mainstreaming treatments which differentially affect pupil outcomes. The conceptualization of mainstreaming as a multidimensional treatment involving numerous administrative and instructional options

requires the use of a research paradigm which does not concentrate only on between-group variance.

Mainstreaming has evolved as an array of administrative and instructional options, each one of which may be conceptualized as a treatment variable. The diversity of philosophies and values regarding educational needs of mentally retarded children has resulted in extensive variability in the intent and implementation of mainstreaming services. The selection of a particular mainstreaming option has resulted from administrators' varying conceptualizations of special education services, availability of human, fiscal, and material resources, and differential emphasis given to the learning characteristics and educational needs of mentally retarded children. Mainstreaming options have also reflected differing organizational influences related to authority and responsibility. The broad range of practices that have been subsumed under the label "mainstreaming" is partially attributable to the inadequacy of available definitions which have not established parameters for what is or is not to be considered as mainstreaming.

The proposed definition suggests that mainstreaming is a proxy variable for integration, the educational planning and programming process, and the clarification of responsibilities for mainstreaming services provided by regular and special education personnel. Each component of mainstreaming must be clearly delineated and must be comprised of operationally defined constructs that are meaningful and measurable. Thus, the extensive variability possible within the suggested definitional framework requires research paradigms which will permit results to be attributed to the effects of specific *within-treatment* variations.

Treatment variables that are both meaningful and measurable have never been easy to isolate and historically have confounded special education research. It may be recalled that one of Kirk's (1964) criticisms of the efficacy research was that

there has not been a clear-cut definition of a special class, the curriculum, or the qualifications of special teachers. Special classes vary widely in organization and in curriculum and teaching methods. Qualifications of teachers vary from well-trained teachers to those subjected to short-term summer courses taught largely by instructors who have had little training or experience with special classes. The administrative labeling of a group of retarded children as a special class for the purpose of receiving state subsidy does not assure it being a special class for experimental purposes. (p. 62-63)

The difficulties involved in specifying meaningful and measurable treatment variables in mainstreaming research are even more formidable than they have been for research on segregated special classes. Not only are all of Kirk's criticisms regarding the efficacy research applicable to

mainstreaming research, but in addition mainstreaming has its own unique complexities. To illustrate, mainstreaming services present the researcher with a perplexing problem regarding the teacher as a treatment variable. Typically, the special education teacher fulfills a variety of concurrent roles and functions regardless of the descriptive label assigned—education statistician (Buffmire, 1973), diagnostic/prescriptive teacher (Prouty & McGarry, 1973), or consulting teacher (McKenzie, 1972). Specifically, these multiple functions include direct instruction to children, instructional assistance to the regular classroom teacher, assessment, and/or prescription. In addition, the special education teacher's direct instruction of children differs in both intensity and content depending on the child's educational needs. Moreover, delivery of the instructional service may occur in a variety of locations, such as a resource classroom or regular classroom.

Given the variability of roles and functions performed by regular and special education personnel providing mainstreaming services, researchers must employ designs which would enable them to specify and isolate aspects of mainstreaming treatments that affect pupil outcomes. The proposed definition provides one framework from which to specify potentially relevant variables. Research related to the effectiveness of mainstreaming must examine its many aspects that operate either singularly and/or interactively to affect the education of the mentally retarded child.

CONCLUSION

Mainstreaming, as defined in this paper, represents one of the most complex educational service innovations undertaken to date by the educational system. The integration, educational planning and programming, and clarification of responsibilities components of mainstreaming, independently and interactively, represent perplexing and sometimes conflicting conceptual constructs requiring operational definition and implementation by educational decision makers. The organizational, administrative, and instructional complexities inherent in providing mainstreaming services will require attention, not circumvention. The benefits of mainstreaming services to the educational system in general, and the mentally retarded child in particular, are likely to occur to the extent that responsible leadership is exercised by regular and special education administrative, instructional, and supportive personnel.

The authors welcome readers' comments on the material reported in this article.

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