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Over the past decade and a half, when the term "integration" has been applied to the education of students with severe disabilities, often it has meant placement in self-contained classes in general attendance elementary and secondary schools. Such placement may have included minimal interactions with nondisabled peers that typically took place in nonacademic settings and activities, such as the lunchroom, bus, playground, assemblies, and homeroom. Any participation in regular classes was generally restricted to the "specials" such as physical education, art, music, or the technical arts (e.g., shop). While the movement toward at least this level of integration signaled a vast improvement over placement in separate schools attended only by children with disabilities, the observed limitations and inequities of self-contained

appropriate

# SUPPORTS

Supports similar to

Educational program similar to regular education Educational program that is extended, m o d i f i e d , o r individualized

ROGRAMS

While the patterns for school-age students may already be established, integrated patterns of service delivery for preschoolers and older students (18-21 years old) require creative and individualized planning. For example, postsecondary-age students might attend programs on college campuses (Frank & Uditsky, 1988; Giangreco & Meyer, 1988; Panitch, 1988; Uditsky & Kappel, 1988). Given the age of the students, this regionalization would be normalized since most 18-21-year-olds who are continuing their education typically attend colleges or technical schools rather than high schools. Further, in rural areas, colleges often are located in regional centers for recreation, social gathering, purchasing, cultural events, and employment. Thus, the regionalization matches students' needs for access to meaningful instructional environments (L Brown, Long, Udvari-Solner, Davis, et al., 1989).

If students with severe disabilities we to be included in their local schools and follow the patterns of service delivery offered to their nondisabled siblings and neighbors, school personnel must cease confusing intensity of services with location of service delivery (Taylor, 1988). Further, schools must be restructured, both physically and programmatically, to provide better access to all students and to provide educational experiences that reflect the demands of an inclusive life in the community.

#### Individualized Educational Goals

In recent years, major curricular reform has occurred in educational programs for students with severe disabilities. Past practices of organizing a sequence of educational goals for individual students based upon normative developmental continua in traditional domains such as motor, language, cognitive, socioemotional, and so on were soundly criticized by L. Brown, Nietupski, and Hamre-Nietupski (1976). L. Brown and his colleagues argued that such curricula were fundamentally inappropriate for students with severe handicaps, and by definition, could only result in the acquisition of relatively meaningless, nonfunctional splinter skills across the school career. Alternatively, curricula that were referenced to the demands of current and future domestic, vocational, leisure, and community environments - such that each goal selected for

instruction represented a functional skill that would

educational activities and those of same-age, nondisabled peers. Furthermore, such curricula were even associated with have severe disabilities have yet to appear in the professional literature.

## **Instruction in Nonschool Environments**

Community-based instruction has become widely accepted as an essential component of educational programming for students with severe disabilities (L. Brown et al., 1976; L. Brown et al., 1983; Falvey, 1989; Sailor et al., 1986; Sailor et al., 1989; Snell & Browder, 1986). The need for direct instruction in the community has been based upon certain assumptions:

1. Students need to learn skills in the environments in which they will ultimately be used.

Because students with severe handicaps have difficulty

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## MANAGEMENT NEEDS RELATED TO INSTRUCTION

One of the most important areas of support, and often the simplest to accommodate, are management needs related to instruction. Management needs refer to aspects of the educational program that are done to or for the student that must be attended to if the student is to have adequate access to educational opportunities. Unlike student participation in instruction required by IEP goals or general curricula, management needs do not necessarily require any active student response. For example, the courts have established that many health-related procedures such as management of tracheostomy (Hymes v. Harnett County Board of Education, 1981), intermittent catheterization (Irving Independent School District v. Tatro, 1984; Tokarcik v. Forest Hill School District, 1981), and dispensing medication (Department of Education, State of Hawaii v. Katherine D., 1983) are school responsibilities.

In the *Irving (1984)* case, the Supreme Court stated:

A service that enables a handicapped child to remain at school during the day is an important

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receive medication in the health office. Since

the regular classroom at various age levels; and 4) coordination of services between regular and special education professional staff and resources. As noted earlier in this chapter, the majority of this research has been carried out for two scenarios: 1) effects of relatively limited integration experiences for students with

(Voeltz,

upon members working together - otherwise the goal cannot be achieved. Methods for promoting positive interdependence are: 1) having mutual goals (goal interdependence); 2) utilizing divisions of labor (task interdependence); 3) dividing and/or sharing materials, resources, or information among group members (resource interdependence); 4) assigning students differing roles (role interdependence); and 5) giving joint rewards (reward interdependence). Second, face-to-face verbal (or other communication forms) interactions must occur. Third, students are held individually accountable for mastering the assigned material and contributing to the group's efforts. Insisting upon individual accountability averts the "hitchhiking" phenomenon, where one student does most of the work and the others are viewed as getting a "free ride." Fourth, students are expected to utilize positive interpersonal and small-group skills. Teachers provide specific instructions on how to collaborate in groups (e.g., by providing instruction in social skills such as encouraging others to participate or taking turns). Teachers also spend time monitoring student behaviors, discussing group functioning, and providing students with feedback on their performance. The final essential component of good cooperative learning is group processing, which involves selfevaluation within the group regarding how well the group is functioning and whether group goals are being achieved.

Extensive research on cooperative learning (approximately 600 studies to date) has indicated that in addition to contributing significantly to student achievement, cooperative learning activities result in students who tend to be friendlier, have more of a group orientation, and learn more from one another (D.W. Johnson et al., 1983; D.W. Johnson, Maruyama, Johnson, Nelson, & Skon, 1981). In cooperative learning situations, more helping, encouraging, tutoring, and assisting among students occurs than in competitive or individualistic situations (D.W. Johnson & Johnson, 1986). Cooperative learning experiences also have been found to "promote more differentiated, dynamic, and realistic views (and therefore less stereotypes and static views) of other students (including handi-capped peers and students from different ethnic groups) than

do competitive and individualistic learning experiences" (D.W. Johnson & Johnson, 1984, p. 115).

Over 50 studies have been conducted on main-streaming and cooperative learning. D.W. Johnson et al. (1981) and D.W. Johnson and Johnson (1989) reviewed 41 studies comparing the relative effects of two or more goal structures on interpersonal attraction between students with and without disabilities. Cooperative learning experiences produced greater interpersonal attraction between the two groups of students than did competitive (effect size = 0.70) and individualistic (effect size = 0.16) experiences.

Although most studies on the use of cooperative learning have involved students with mild disabilities, the application of such procedures to students with moderate and severe handicaps is increasing. Studies have been conducted in elementary and secondary school and recreation settings, involving activities as varied as science projects, art, cooking, music, academic and preacademic tasks, and group recreation activities students contributed to their groups' goal attainments in various ways while also writing on

and nonschool environments" (Baumgart et al., 1982, p. 19). The assumptions underlying partial participation are that: 1) it is educationally more advantageous than exclusion from

to make progress in the mastery of instructional content at a pace suited to his or her abilities and interests.

- 3. Periodic evaluations of student progress emphasize feedback to individual students regarding mastery.
- 4. Each student assumes some responsibility
- for diagnosing his or her needs and abilities, for planning individual learning activities, and for evaluating his or her mastery.
- 5. Alternative activities and materials are available to aid students in the acquisition of essential academic skills and content.
- 6. Students have a choice in determining their individual educational goals, outcomes, and activities.
- 7. Students assist each other in pursuing individual goals, and they cooperate in achieving group goals.

Research involving students with mild

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REGULAR

& Helse-Neff, 1988). The changing role of teacher assistants and the level of dependence upon their services will require modification and individualization in order to keep pace with the call for full inclusion into regular education.

# Peers and Classmates

Traditionally, regular education peers have been

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exposure alone. There is also some evidence to suggest that less hierarchical friendship interactions will be associated with more positive outcomes than hierarchical tutoring relationships alone, where the nonhandicapped child's only experience with the child with severe disabilities is to serve as a peer tutor. In addition, social contact with non-disabled children has been related to increased mastery of IEP goals by students with severe disabilities, and the research on cooperative learning shows no ill effects associated with integration upon the achievement of nondisabled children participating in isolated learning experiences with children with moderate to severe disabilities (see Meyer & Putnam, 1988, for a comprehensive review of these data).

However, virtually all these data were collected for children who spent the vast majority of their school day in separate environments - that is, in different classrooms. To date, no evidence exists regarding the effects of different components of a full-inclusion model upon student achievement, attitudes, social competence, and friendships. For example, what kind of impact would involvement of typical peers in instructional planning (as in MAPS, Vandercook et al., 1989) have upon children's achievement, friendships, and so on? Would team teaching be more or less facilitative of student mastery of IEP goals in comparison to other staffing models, such as consultant teacher services? Which types of full-inclusion models would ultimately be associated with the development of informal social support networks in the community through the attainment of social competence, positive attitudes, and feelings of friendship by nondisabled children toward their peers with severe disabilities? Many other specific research questions might be and should be formulated once the actual components of

being part of one's peer group) that do relate to skill mastery and valued social outcomes? How does this compare to the opportunities available to secondary-age students in school versus nonschool settings? In the interim as we await the results of such systematic study, social validation research might be conducted to support the kinds of practices we do implement for students. At the very least, we should have more information about the importance that parents and professionals place on different experiences for children. We might even try to find creative and valid ways to ask the needs. In combination with an inclusionary values base and sound logic and theory to guide us where data continue to be absent, research will

#### REFERENCES

- Anderson, L.W. (1985). A retrospective and prospective view of Bloom's "Learning for Mastery." In M.C. Wang & H.J. Walberg (Eds.), *Adapting instruction to individual differences (pp.* 254-268). Berkeley, *CA:* McCutchan.
- Asher, S.R., & Taylor, A.R. (1981). The social outcomes of mainstreaming: Sociometric assessment and beyond. *Exceptional Education Quarterly, 1. 13-30.*
- Ayres. B. (1988, September). Integration: A parent's perspective. *Exceptional Parent*, pp. 22-25.
- Ballard, M., Corman, L., Gottlieb, J., & Kaufman, M.J. (1977).

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- Giangreco, M.F., York, J., & Rainforth, B. (1989). Providing related services to learners with severe handicaps in educational settings: Pursuing the least restrictive option. *Pediatric Physical Therapy*, *1*,55-63.
- Gickling, E., & Armstrong, D.L. (1978). Levels of instructional difficulty as related to on-task behavior, task completion and comprehension. *Journal of Learning Disabilities*, 11, 559-566. Gilkeson,

provement of unpopular handicapped and nonhandicapped pupils: A review. *Elementary School Journal.* 81(4), 228-236.

- Lipsky, D.K., & Gartner, A. (Eds.). (1989). *Beyond* separate education: Quality education for all. Baltimore: Paul H. Brookes Publishing Co.
- MacMillan, D.L., Jones, R.L.. & Aloia, I.E (1974). The mentally retarded label: A theoretical analysis and review of research. *American Journal of Mental Deficiency*, 79, 241-261.
- Madden, N.A., & Slavin, R.E. (1983). Mainstreaming students with mild handicaps: Academic and social outcomes. *Review of Educational Research*. 53. 519-569.
- Maheady, L., Sacca. M.K., & Harper. G.E (1988). Classwide peer tutoring with mildly handicapped high school students. *Exceptional Children*, 55(1), 52-59.
- McDonnell, A.P, & Hardman. M.H. (1989). The desegregation of America's schools: Strategies for change. *Journal of The Association for Persons with Severe Handicaps, 14,* 68-74.
- Meyer, L.H., & Eichinger, J. (1987). Program evaluation in support of program development Needs, strategies, and future directions. In L. Goetz, D. Guess, & K. Stremel-Campbell (Eds.), *Innovative program design for individuals with dual sensory impairments (pp.* 313-353). Baltimore: Paul H. Brookes Publishing Co.
- Meyer. L.H., Eichinger, J.. & Park-Lee, S. (1987). A validation of program quality indicators in educational services for students with severe disabilities. Journal of *The Association for Persons with Severe Handicaps*, *12*, 251-263.
- Meyer, L.H., & Putnam, J. (1988). Social integration. In V.B. Van Hasselt, P.S. Strain, & M. Hersen (Eds.), *Handbook of developmental and physical disabilities* (pp. 107-133). New York: Pergamon Press.
- Natriello. G. (1987). Introduction. In G. Natriello (Ed.), School *dropouts:*

- Schattman, R. (1989). Franklin Northwest Supervisory Union: A model for full integration. Swanton, VT: Franklin NW Supervisory Union.
- Semmel, M.I., Gottlieb, J., & Robinson, N.M. (1979). Mainstreaming: Perspectives on educating handicapped children in public schools. In D.C. Berliner (Ed.), *Review of research in education* (pp. 223-278). Washington. DC: American Educational Research Association.

Shevin, M., & Klein, N.K. (1984). The importance of choice-making for students with severe disabilities. *Journal of The Association* 

for Persons with Severe Handicaps, 9, 159-166.

Slavin, R., Madden, N., & Leavey, M. (1984). Effects of team assisted

- differences. In M.C. Wang, M.C. Reynolds, & H.J. Walberg (Eds.), *Handbook of special education: Research and practice* (pp. 113-128). New York: Pergamon Press.
- Wang, M.C., & Birch, J.W. (1984). Effective special education in regular classes. *Exceptional Children*, 50, 391-398.
- Wang, M., Gennari, F., & Waxman, H. (1985). The Adaptive Learning Environments Model: Design, implementation, and effects. In M. Wang & H. Walberg (Eds.). Adapting instruction to individual differences (pp. 191-235). Berkeley, CA: McCutchan.
- Wang, M., Reynolds, M., & Schwartz, L. (1988). Adaptive instruction: An alternative educational approach far students with special needs. In J. Graden. J. Zins, & M. Curtis (Eds.), Alternative educational delivery systems: Enhancing instructional options for all students (pp. 199-220). Washington. DC: National Association of School Psychologists.
- Wehlage, G.G., & Rutter, R.A. (1987). Dropping out: How much do schools contribute to the problem? In G. Natriello (Ed.), *School dropouts: Patterns* and policies (pp. 70-88).