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Collaborative Teamwork in Training and Technical Assistance: Enhancing Community Support for Persons with Disabilities

Beverly Rainforth, Michael F. Giangreco, Pamela D. Smith, and Jennifer York

INTRODUCTION

Interdisciplinary teamwork has long been seen as a necessary element of effective services for persons with disabilities (e.g., Whitehouse, 1951). In 1962 the President's Panel on Mental Retardation identified the need for professionals serving persons with mental retardation to

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In (1995) O. Karan & S. Greenspar. Community Rehabilitation services for people with disabilities. Newton, MA: Butterworth-Heinemann.

be trained to work in teams, and for that training to be provided in settings where services are exemplary (Long Range Task Force, 1976). When the President's Panel recommendations were translated into legislation creating the University Affiliated Facilities on Developmental Disabilities (UAFs), the UAF mission was defined in terms of training, services, technical assistance, and research that were interdisciplinary in nature. Thus an interdisciplinary focus became recognized legally as a feature surrounding exemplary services for children and adults with developmental disabilities.

The Long Range Task Force on University Affiliated Facilities defined *interdisciplinary training* as a process that "promotes the development and use of a basic language, a core body of knowledge, relevant skills, and an understanding of the attitude, values, and methods of participating disciplines" (1976, p. 11). The task force also asserted, in 1976, "Today the state of the art has substantially progressed so that defined interdisciplinary training objectives, core courses, and well-articulated team practicum experience exist in many of the current UAF programs" (p. 11). The outcome was services involving professionals from many disciplines who shared reports and recommendations, recognized the important contributions of others, and generally coordinated services with team members. Unfortunately, the services themselves typically were provided in isolation from one another, resulting in overlap, fragmentation, or even incompatibility. This chapter (a) examines a collaborative team approach that extends beyond the traditional interdisciplinary model to be more consistent with current best practices in services for people with disabilities, (b) discusses the training and technical assistance efforts needed to promote adoption of a collaborative team approach, and (c) presents examples of these training and technical assistance activities through three University Affiliated Programs.

A Collaborative Team Approach

As early as 1969, federal and private nonprofit agencies funded projects to develop a more integrated model of service provision for children and adults with disabilities; this model eventually was termed "transdisciplinary" (Hutchison, 1978). The defining feature of the transdisciplinary approach is the process of "role release" that enables team members to cross discipline boundaries and use methods traditionally associated with other disciplines (Lyon and Lyon, 1980). Conceptualization of the model recognized that (a) the knowledge, skills, and roles

associated with any one discipline overlap with the other disciplines and (b) many members of a team can develop competence in using specific strategies with specific children or adults in specific situations. All members of the transdisciplinary team are expected to participate in teaching their teammates, learning from their teammates, and providing services that incorporate their new learning.

In effective teams, then, role release is a reciprocal process among all team members, not a unidirectional process emanating from "specialists." It is particularly important that parents and others who have frequent contact with the person with disabilities teach other members of the team. Teams often designate a parent, professional, or paraprofessional as the primary interventionist for a child or adult with disabilities, reducing the number of people and isolated services to which the child or adult must respond. The team integrates the strategies from the component disciplines, designs a comprehensive intervention plan, and teaches the primary interventionist the specific skills from each discipline, as needed to implement the plan.

The team continues to support the primary interventionist through ongoing supervision, problem solving, program design and modification, and retraining. While the transdisciplinary approach established an important framework for team members from multiple disciplines to improve coordination and consistency of their services, a weakness was that services continued to be provided in isolated settings and nonfunctional contexts: medical centers, segregated schools, laboratory classrooms, therapy rooms, and so on. Furthermore, while team members agreed to a shared set of goals, the goals still might be addressed in isolation from one another.

During the same time frame, educational teams established a model for "integrated therapy" in which students with disabilities received intervention in the routine activities and natural settings where skill improvement was most desirable (Sternat et al., 1977). While the model did not specify the use of a transdisciplinary approach, providing integrated therapy has proven to require role release for effective implementation. For example, the routine of eating lunch in the cafeteria involves (a) walking to, from, and through the cafeteria; (b) manipulating materials such as lunch tickets, trays, and eating utensils; (c) making requests; and (d) interacting with other children and adults. Whether the team chooses the physical therapist, speech-language pathologist, or another team member to teach this routine to a child with multiple disabilities, input from several disciplines may be needed to assess the student's performance within the context of this routine and design an appropriate instructional plan.

When teams fail to coordinate and combine the interventions from the various disciplines, fragmentation results. By default, frustrated students

nd their families may take on this coordination function, with varying egrees of success. Even when families are very skilled in this type of ɔordination, often it is more supportive for the entire team, including the udent and family, to work closely during assessment, program planning, ıstruction, and program evaluation.

Effective implementation of the transdisciplinary and integrated ther-ɔy models requires collaboration among professionals from many disci-ines, paraprofessionals, children and adults with disabilities, and their milies. To emphasize the need for collaboration, "collaborative team-ork" is now used to refer to service provision that combines the essential ements of the transdisciplinary and integrated therapy models (Gian-eco, York, and Rainforth, 1989; Rainforth, York, and Macdonald, 1992; ɔrk, Rainforth, and Giangreco, 1990). Rainforth, York, and Macdonald)92) defined the characteristics of collaborative teamwork in educational ttings as follows:

1. Equal participation in the collaborative teamwork process by family members and the service providers on the educational team.
2. Equal participation by all disciplines determined to be necessary for students to achieve their individualized educational goals.
3. Consensual decision making about priority educational goals and objectives related to all areas of student functioning at school, home, and in the community.
4. Consensual decision making about the type and amount of support required from related services personnel to achieve student goals.
5. Attention to motor, communication, and other embedded skills and needs throughout the educational program and in direct relevance to accomplishing priority educational goals.
6. Infusion of knowledge and skills from different disciplines into the design of educational methods and interventions.
7. Role release to enable team members who are involved most directly and frequently with students to develop the confidence and competence necessary to facilitate active learning and effective participation in the educational program.
8. Collaborative problem-solving and shared responsibility for student learning across all aspects of the educational program.

hough this list is framed around educational programs, the charac-stics are equally valid for medical, vocational, community living, and er support services for children and adults with disabilities.

Defined in this way, collaborative teamwork supports implementation urrent best practice in the field of disabilities in at least three ways. t, collaborative teamwork is consumer-centered. The consumer, family

members, and friends are equal partners with professionals. Collaborati teamwork is a means to facilitate the supports that enable people wi disabilities to exercise freedom and control over their lives, rather thai way to surround "clients" with "experts" who will make good decisio on the clients' behalf. Interdisciplinary teams traditionally have consist of specialists who have expertise not shared with others; collaborati teams consist of partners who have specialized knowledge or skills th some teammates do not possess *yet*.

Members of collaborative teams constantly strive to share informatic to facilitate achievement of each person's goals. Rather than start wit dentification of a person's deficits and problems, the collaborative tea acquires its focus by learning about who the person is, what his or her goal are, and what barriers to achieving those goals he or she has encountere From this framework, the consumer, family members, friends, and profes sionals collectively determine the priorities that guide the team's efforts Because each team member possesses unique abilities and knowledge, al nembers of the team share equally in responsibility for developing effec ive services and overcoming barriers.

Second, collaborative teamwork was conceptualized to improve co ordination and relevance of services for people with disabilities. Rathe han assemble a team of fifteen to twenty professionals, which is over whelming and inefficient, a small core team that can address priority eeds is identified. The small core team develops a coordinated plan for ssessment that avoids duplication and gaps. Rather than professionals onducting their respective assessments independently, members of the ore team often conduct part or all of their assessments together, ena- ling them to compare perspectives of the same events, to integrate ose perspectives, and to expand their understanding of the consumer's bilities and the impact of his or her disabilities. Rather than each of the isciplines writing a separate assessment report and making separate ser- ice recommendations, the core team writes one report in which obser- ations, conclusions, and recommendations are integrated. The team, cluding the consumer, family members, and friends, determines how ecisions will be made about setting priorities, planning intervention rategies, and evaluating outcomes.

It may not be possible for teams to make every decision together, so nsensus about a *process* for decision making is essential. For example, e team may meet to discuss priorities; another may not meet but mem- rs may give the team leader feedback on proposed priorities, another am might agree that family members make the final determination. Once iorities are set, rather than each discipline independently planning inter-

itions and periodically reporting back to the team, the collaborative
m designs a comprehensive plan that incorporates strategies from all
ded disciplines. The appropriate core team members combine their
itegies into a multifaceted approach and teach the primary intervention-
(e.g., consumers, family members, teachers) how to use the combina-
a of strategies. Collectively, the core team evaluates the effectiveness
ervices to achieve the consumer's goals, seeks solutions to problems,
modifies plans when progress is not satisfactory. Coordination and
vance of services are improved because a small core team collaborates
ensively to address shared goals.

Third, traditional interdisciplinary services have been center-based;
laborative teams support services that are community-based. Ser-
es for infants and toddlers with disabilities and their families are
ed in their homes and/or integrated day care settings. Children and
ith with even the most severe disabilities, including complex health
e needs, are now educated in integrated preschools and neighborhood
ools, in regular classrooms alongside their peers without disabilities
angreco and Putnam, 1991; Schaffner and Buswell, 1990; Stainback
Stainback, 1992; Villa et al., 1992). Adults with varied types and
rees of disabilities live and work in the same settings as people with-
disabilities (Kiernan and Schalock, 1987; Mount and Zwernick,
8; Racino et al., 1992).

Collaborative teams are able to understand consumers' goals, abilities,
needs, and develop appropriate support services because they work
h consumers in their everyday settings. For example, a core team con-
ing of a community living companion, job coach, speech-language pa-
logist, and psychologist spent time learning about an adult with severe
ming and behavior disorders at both his apartment and his community
k site. After determining ways the man experienced stress and rewards
is life, the team developed strategies to teach the man more acceptable
s to communicate preferences, needs, and rejection, to increase his
rance of demands in daily routines, and to expand the work and leisure
ivities from which he could choose. The core team made use of an
ended team when they needed additional assistance, such as when they
ght a psychiatrist's reevaluation of the man's longstanding prescription
high doses of psychotropic medications. This man will need lifelong
port for community living, but the quality of his life improved signifi-
tly when his team based themselves in the circumstances of his every-
life.

Collaborative teamwork is defined as a team approach that ensures a
sumer focus, support from professionals to achieve consumer goals,

thorough integration of services with one another, and provision of services in the community settings where consumers prefer to live, work, attend school, and use their leisure time. This shift away from expert-driven, loosely organized, center-based models is essential to implement current best practices in services for people with disabilities. As best practices evolve, however, it is also essential that our teaming models continue to evolve, and that training and technical assistance activities are reshaped to promote adoption of our most current models.

CHARACTERISTICS OF TRAINING AND TECHNICAL ASSISTANCE TO PROMOTE COLLABORATIVE TEAMWORK

Given that collaborative teamwork is more consistent with current best practices than the traditional interdisciplinary approach, what are the characteristics of training and technical assistance to professionals and paraprofessionals that will promote a collaborative team approach? Prior to engaging in role release, each team member needs a strong foundation in his or her own discipline (Patterson et al., 1976), acquired through pre-service training and/or practical experience. Each team member also maintains professional competence through ongoing independent study, continuing education, and consultation with members of one's own discipline.

Team members benefit further from increasing their understanding of the nature and needs of persons with certain types of disabilities, through independent study or coursework, such as is typically offered through University Affiliated Programs on Developmental Disabilities (see, e.g., Karan et al., 1986). The more secure team members feel about the knowledge and skills associated with their discipline, the more comfortable they feel about practicing their discipline in front of others, teaching selected aspects of the discipline to others, learning selected aspects of another's discipline, and contributing to team planning and problem-solving efforts. Working with a collaborative team helps team members see that no one discipline has all the answers (Rainforth, 1985).

A second major area of need relates to interpersonal and group work skills. Fortunately, increasing numbers of children are yearning to work in cooperative groups as a routine part of their educational programs. In the process, they learn to work toward a common goal, elicit and find value in contributions from all members of their work group, negotiate agreements among group members, and present outcomes in a group report for which

members take both credit and responsibility (Johnson and F. Johnson, 37). Unfortunately, most of today's adults were taught to work in individualistic and competitive goal structures, and lack the skills to work operatively (Johnson and R. Johnson, 1987).

Many teacher educators have found that they can teach cooperative ming strategies most effectively by incorporating the strategies into the lege classroom. That is, they do not just discuss what cooperative learnis and how interdependence can be structured, but they organize their rses so teachers learn to work in cooperative groups as they learn the rse content (Cooper and Mueck, 1990; Johnson, Johnson, and Smith, 0). Although this may not be the best structure for all college courses, disciplines would benefit from experience with this approach during ir pre-service and in-service training. Similarly, existing teams would efit from technical assistance that teaches them to use cooperative goal ctures through direct experience working in cooperative groups.

A third area of need for training and technical assistance relates to king cooperatively with members of other disciplines. Although there nsiderable overlap with needs related to group work, this area deserves cial attention due to the structures and rewards inherent in universities. st pre-service and in-service programs related to disability services ress the topic of teamwork. Unfortunately, it is almost always a single lty member representing a single discipline who describes the process largely unidisciplinary class. Diversity in class makeup can be insed somewhat by advertising availability of courses as electives for lents in other programs, by cross-listing courses with other departts, by recruiting students directly through class presentations, and rectly through associations among faculty who serve as student advi- in other departments. Ensuring diversity requires a structure that fits ady compact program requirements.

Increasing the diversity of a class is a relatively simple issue, however, n compared with modeling collaborative teamwork for the class ugh strategies such as team teaching. Most university faculty members ppointed to a single department, in which they have responsibilities eaching, research, and service. The demands and relative importance ese activities vary considerably among departments, however, so facmembers from different departments who try to share a responsibility lly (e.g., for a team-taught course) do not necessarily share equally in rds. Issues such as who gets how much credit for a course and how to ate planning time often become insurmountable barriers to team hing, even within a department.

Furthermore, faculty members typically earn rewards based upon ributions to their department's agenda and needs, so efforts to work

with faculty in other departments often are thwarted. Fortunately, some departments have found creative solutions to these problems, devising flexible structures to support collaborative efforts. In other cases, formal structures such as externally funded projects or the umbrella of a University Affiliated Program have provided the impetus and support for interdepartmental collaboration. A shared commitment by specific faculty members seems to be the primary determinant of whether collaboration will occur in universities, however (Rainforth, 1985).

Practicum experiences may offer opportunities for students to observe and practice collaboration with team members from various disciplines, but most clinical sites continue to offer less desirable models: center-based services provided by unidisciplinary or multidisciplinary teams. This situation might be remedied most effectively by establishing "model" programs that demonstrate the best practices discussed earlier in this chapter. Achieving "model" status usually requires both an agency commitment to change and technical assistance from professionals and paraprofessionals who describe, demonstrate, and guide adoption of practices associated with collaborative teamwork. As better models are established at practicum sites, students are more likely to seek out employers and colleagues who will support collaborative teamwork and replication of other best practice experiences.

The fourth and final area of need for training and technical assistance relates to specific programmatic strategies that will enable team members to implement the best practices discussed earlier in this chapter. For example, current and potential members of collaborative teams would benefit from learning to use the following types of strategies:

1. Personal Futures Planning (O'Brien, 1987) or McGill Action Planning (Vandercook, York, and Forest, 1989), to envision a desirable future as defined by the consumer, as the first step in identifying barriers, goals, and services and supports needed to achieve goals.
2. Ecological inventory, to identify priority environments, activities, and embedded skills, to identify demands and opportunities available in priority environments and activities, and to assess consumer performance (Brown et al., 1979; York and Vandercook, 1991).
3. Team planning and program development, to establish goals, objectives, and instructional procedures that reflect input from all relevant disciplines on the collaborative team (Giangreco, Cloninger, and Iverson, 1993; Rainforth, York, and Macdonald, 1992).
4. Block scheduling and other organizational structures that support flexible services in community settings, rather than traditional episodic interventions in clinical settings (Rainforth and York, 1987; York, Rainforth, and Wiemann, 1988).

Rainforth and colleagues (1992) provide a more extensive discussion of these and other strategies useful for collaborative teams in educational settings.

When the goal of training and technical assistance is to increase collaborative teamwork in consumer-driven, community-based services for persons with disabilities, it is most appropriate that the training and technical assistance processes exemplify those attributes.

ACTIVITIES THAT PROMOTE COLLABORATIVE TEAMWORK

There are numerous organizations that might provide training and/or technical assistance to assist teams and team members to adopt a collaborative team approach in consumer-driven, community-based services for persons with disabilities. These include state and local education agencies, public and private nonprofit agencies for persons with disabilities, hospitals and rehabilitation centers, and institutions of higher education. The examples of training and technical assistance activities presented here come from University Affiliated Programs for Persons with Developmental Disabilities (UAPs), which are charged with this type of responsibility, and which they often fulfill through partnerships with the organizations identified above. Undoubtedly there are other UAPs and organizations engaged in exemplary activities that are not described here.

The examples presented in the following sections are intended to reflect an array of training and technical assistance activities involving professionals from a variety of disciplines whose services support children and adults with a variety of needs in a variety of community settings. Examples are drawn from the UAPs at The University of Kentucky, the University of Minnesota, and the University of Vermont. Rather than run clinics and other university-based services, these UAPs focus on increasing the capacity of local organizations and agencies to meet the needs of children and adults with developmental disabilities in the community.

The first section provides an overview of the University of Minnesota's pre-service programs for professional preparation in developmental disabilities. Because relatively few professionals have participated in programs of this type, however, there remain extensive needs for on-the-job training and technical assistance to community service providers. The second section describes a statewide systems change project at the University of Kentucky, which provides training and technical assistance to local

education agencies serving students with severe disabilities. The third section describes the work of a team at the University of Vermont, which provides ongoing support to local education agencies throughout the state. Although each of these UAPs sponsors other activities that promote collaborative teamwork, space does not permit complete description of all activities. Additional information is available from the author affiliated with each UAP.

University of Minnesota, Institute on Community Integration

There are four philosophical underpinnings for the design and implementation of training at the Institute for Community Integration: (a) integration or inclusion of individuals with disabilities into typical family, school, community, and work life; (b) an ecological perspective in determining strengths, challenges, needs, and resources for service provision; (c) family- and consumer-centered services and supports; and (d) collaboration that extends across disciplines (interdisciplinary) and agencies (interagency).

Too frequently, professionals who will be involved in the lives of persons with developmental disabilities and their families graduate from pre-service programs to the real world of practice without a solid foundation in these philosophies. At the University of Minnesota, students from a variety of disciplines receive preparation that establishes these underpinnings through two broad approaches to pre-service training: (1) designing comprehensive programs of study and (2) infusing disability information, usually in the form of short teaching modules, into existing survey courses in departments across campus. This section presents brief descriptions of both approaches to training as used by the Institute on Community Integration.

Interdisciplinary Studies in Developmental Disabilities Certificate Program

This sixteen to twenty-four-credit program offers interdisciplinary training for educators, human service professionals, health professionals, community members, and other interested individuals. Initiated in 1987, the program was designed to enable students from a variety of majors on campus to take a specialized course of study in developmental disabilities. Increasing numbers of people who are not in degree programs at the University of Minnesota have enrolled in the certificate program. Many are practicing professionals in the field who enroll for continuing

education. Others are seeking information about careers in developmental disabilities. Students enrolled in a degree program find that the certificate program is flexible enough so they can pursue the certificate as a complement to their major area of study.

Central to the design and delivery of the program are elements that promote understanding of and opportunities to experience collaborative teamwork. Reflected in two core courses, these elements include

- Students from a variety of disciplines with diverse experience and perspectives enrolled simultaneously in both core courses
- Heterogeneous small group and cooperative learning instructional formats
- Structured learning opportunities to reflect and write about personal and professional applications of information
- Two instructors (faculty member and graduate student) serving as the core instructor team, who are joined by community service providers, agency personnel, family members, and individuals with developmental disabilities for the majority of sessions
- Specific content area instruction about effective communication among team members and about various models of teamwork (e.g., multi-, inter-, and transdisciplinary models; medical versus educational perspectives)

Three levels of training are offered in the certificate program.

Level 1: Foundational concepts and knowledge. This level focuses broadly on the characteristics, needs, and capacities of persons with developmental disabilities and their families as well as on contemporary philosophy, practices, and issues. Two courses at this level are required for all program participants. The first, Contemporary Services for Persons with Developmental Disabilities, is a three-credit survey course that addresses the characteristics of individuals with developmental disabilities and the etiology of disabilities. Also discussed are historical and current perspectives on issues related to promoting independence, productivity, and integration in home, school, work, and community life across the life span.

The second required course, Family-Professional Planning for Persons with Severe Disabilities, focuses more specifically on family aspects of services and supports, with emphasis on strategies (e.g., Personal Futures Planning, McGill Action Planning System) to promote collaborative planning and implementation. Special aspects of family-professional cooperation during preschool, transition to adulthood, and post-school life are discussed.

Level 2: Specialized knowledge and skills acquisition. At this level, students can select from among a wide range of courses to acquire knowledge and skills focused on intervention, research, or policy. Coursework at this level includes approved electives in special education, family social science, nursing, public health, communication disorders, educational policy and administration, recreation and leisure, physical education, social work, vocational education, and other fields.

Level 3: Demonstration and application of skills. The focus of training at this level is to provide students with opportunities to apply their knowledge and skills through an individually designed learning experience in intervention, research, or policy activities. For students enrolled in a degree program, staff from the Institute on Community Integration work with advisors from the students' major department to design a field experience that meets the requirements of both the major department and the Interdisciplinary Certificate Program.

Students have reflected positively on the Interdisciplinary Certificate Program in course evaluations and at completion of the program. They have noted particular satisfaction with perspectives gained from interacting with students from diverse academic backgrounds and experiences, speakers with disabilities who were self-advocates, and speakers who worked in the field of developmental disabilities in a variety of capacities.

Specialized Pre-service Training Sequences

There are several specialized training sequences that represent collaborative pre-service training efforts between discipline coordinators in various academic departments and faculty and staff of the Institute on Community Integration. The training sequences are designed to promote an interdisciplinary and developmental disabilities theme at the pre-service level. Included are sequences in the areas of early intervention, social work, recreation/leisure, adapted physical education, general education, special education, school psychology, augmentative communication, and transition and employment. The program design for most areas includes the training provided in the Interdisciplinary Studies in Developmental Disabilities Certificate Program, with the courses for Level 2: Specialized Knowledge and Skill focused on the respective content areas. Several specialized pre-service training sequences are described below. As noted earlier in this chapter, interdisciplinary arrangements in university training programs are challenging and usually reflect commitments by specific faculty members in addition to the presence of supportive struc-

tures. Therefore, faculty affiliations with diverse schools and departments are noteworthy.[1]

Interdisciplinary leadership training program in early intervention. The program trains students from eight academic programs to provide leadership in research and training of persons to work with infants, toddlers, and preschoolers who may be at risk for or have developmental delays, and their families. Students from different discipline orientations go through their training as a cohort group, learning about each other's disciplines and how to work together as an effective collaborative team.

Secondary transition specialist training program. This program focuses on teaching vocational and special educators to enhance secondary education and employment opportunities for students with severe disabilities and their transition into the workforce.

Training of therapeutic recreation students in community integration. This program prepares therapeutic recreation specialists to facilitate inclusion of children and youths with severe developmental disabilities in recreation programs across home, school, and community settings.

Developmental disabilities rotation in pediatrics. Initiated in the summer of 1991, this one-month rotation is required of all pediatrics residents. In addition to clinical education and practice at a children's hospital, the rotation incorporates parent/family and community agency components. The parent/family component includes instruction provided by parents of children with developmental disabilities and extended interactions with families in the contexts of their own choosing. The community agency component includes discussions with Institute on Community

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Integration staff in order to provide an overview of community services and observations/interactions with community service providers in integrated school, recreation, or work environments. Emphasized throughout the community agency component are ways that physicians can support families by connecting them with community resources.

Community service training program. This program provides high school and college students with information about the field of developmental disabilities and related career and community support opportunities. The two main components of this program are weekly seminars and community-based recreation opportunities. In the seminars, students acquire basic knowledge about disabilities, awareness of similarities between persons with and without disabilities, understanding of the roadblocks to making friends that face many people with disabilities, and ways to remove or minimize barriers to friendships. In the community-based component, partners are matched and specific community environments and activities are identified by conducting inventories of activity interests and of personal relationship interests (e.g., preference for a large network of acquaintances versus a small network of close friends). Once partners with shared interests are matched, they are assisted to access community environments and supported to participate and interact in the environments. Because partners might not continue their association after the one-year commitment, emphasis is placed on supporting the person with a disability to establish networks that will continue if the partner leaves.

University of Kentucky Interdisciplinary Human Development Institute: Kentucky Systems Change Project

The Kentucky Systems Change Project is a five-year project funded by the U.S. Department of Education, Office of Special Education Programs, and conducted by the Interdisciplinary Human Development Institute, the University Affiliated Program at the University of Kentucky. The project is operated in collaboration with the Kentucky Department of Education, Division of Special Learning Needs. The goals of the Kentucky Systems Change Project include:

1. Movement of students from segregated to integrated educational placements
2. Enhancement of educational programs for students in integrated placements

3. Dissemination of best practices to policy makers, administrators, parents, and teachers statewide
4. Development of state-level policies and practices to enhance integrated educational opportunities

The focus of the project is to facilitate increased integrated educational ortunities for students with severe disabilities through two levels of tems change: (1) at the state level, including policy changes and state-le personnel preparation needs and (2) at the local level, to develop icies and programs that facilitate the provision of quality integrated ıcational programs for students with severe disabilities in local school tricts. To facilitate systems change at the state level, the project iden-es barriers to the provision of integrated educational programs and plements strategies to remove or overcome these barriers, working sely with the project's statewide advisory board, composed of consum-, parents of children and youth with severe disabilities, representatives state agencies serving infants/toddlers through adults, local school dis-ct personnel, representatives from institutions of higher education, and resentatives of protection and advocacy.

The project works with selected school districts across Kentucky to prove their educational programs and provides extensive in-service ining and on-site technical assistance to administrators, teachers, re-ed services personnel, and parents in these districts. Outcomes to date clude (a) movement of 165 students with severe disabilities from seg-gated schools to age-appropriate, regular school campuses and the osequent closing of four segregated special schools; (b) provision of stematic, regularly scheduled community-based instruction to 78 per-ıt of students with severe disabilities in participating classrooms; (c) egrated educational opportunities for all students in participating tricts, including full-inclusion models in selected programs; and (d) de-lopment and dissemination of five major documents statewide and tionally. The following paragraphs highlight project activities aimed at ovision of integrated educational programs, exemplify how collaborative ategies were included in these activities, and discuss the subsequent tcomes of these efforts in Kentucky.

Twenty school districts have participated in the Kentucky Systems ıange Project, with training and technical assistance designed to meet e needs of the individual school district and staff. Strategies that facilitate llaboration across disciplines and agencies are incorporated into all tech-cal assistance and training activities, with primary emphasis on integra-ın of students with severe disabilities. A project staff member with pertise in special education serves as the change facilitator for each

strict. This person (a) conducts on-site interviews, observations, and ogram evaluations (Kleinert, Smith, and Hudson, 1990); (b) works with strict personnel across disciplines to develop the district technical assisnce plan; (b) works with district-wide teams composed of educators and lated disciplines who work with students with severe disabilities; (d) orks with school-based teams on collaborative assessment, problem solvg, and interventions; (e) works with district-wide Integration Task Forces i districts that are moving students from segregated special schools to tegrated neighborhood schools; (f) coordinates all technical assistance id training activities; and (g) monitors the effectiveness of project efforts ithin the district, with particular emphasis on individual student outomes.

The change facilitator provides on-site training to teams composed educators, administrators, and related services personnel. In addition, llaborative planning processes are used to promote input from all am members for making decisions and resolving district-wide issues. his approach is used (a) to promote ownership of both the planning ocess and the products of implementation and (b) to model and teach llaborative planning and decision making, to empower team mems to continue their efforts over time. In the course of the project, veral products were developed and used to support training activities, described below.

The project staff developed *The Quality Program Indicators Manual r Students with Moderate and Severe Handicaps* (Kleinert, Smith, and udson, 1990) to determine technical assistance needs and to document anges in programs for students with severe disabilities in local school stricts. The manual's components include (a) integration, (b) functional rriculum, (c) systematic instruction, (d) community-based instruction,) transdisciplinary services and integrated therapy, and (f) vocational struction and transition plans. Each component includes a checklist of e quality indicators for that component with a description of each of the dicators. The manual has been used for program evaluation and training rposes and serves as a descriptive document to define and describe ogrammatic best practices and how to implement these in local ograms/classrooms.

Strategies that promote collaborative teamwork are incorporated into l sections of the manual, with the sections on integration, functional rriculum, transdisciplinary services and integrated therapy, and vocaonal instruction and transition plans incorporating the most emphasis in llaborative strategies. For example, the integration section contains indicators or teacher behaviors that promote collaborative planning for interated activities and role release of skills to regular education teachers and

ther school staff to empower them with knowledge, skills, and confidence equired to work with students with severe disabilities within the general chool environment. The section on functional curriculum focuses on esigning functional curriculum that is student and family driven, and uses cological inventory to determine a single set of discipline-free goals and bjectives involving related disciplines to embed basic skill instruction in ıe context of functional, age-appropriate activities. This approach lays the ɔundation for ongoing collaboration with related team members to imple- ıent and utilize discipline-specific strategies taught to other team mem- ers to promote attainment of a single set of goals and objectives for ıdividual students.

These processes are described more extensively in *Curriculum Plan- ing Process and Model Local Catalogs for Students with Moderate and evere Disabilities* (Hudson and Kleinert, 1991), also developed by the roject for training local school district teams. The section on transdisci- linary services and integrated therapy emphasizes collaborative team- ork strategies such as conducting collaborative assessments, block heduling, embedding basic skill instruction and discipline-specific ob- ctives, service delivery based on student educational outcomes and pro- ided in natural settings, integrated discipline strategies and adaptations, ɔnsultation with and training of other team members, team meetings and ɔmmunication, and implementation issues. The section on vocational ıstruction and transition plans includes collaborative teamwork in the ansition planning process involving the student, family members, school aff, adult agency personnel, and others.

One of the most significant barriers to integrated education of students ith severe disabilities identified by the project's statewide advisory board as programmatic integration of related services. The project answered ıis need in two ways. First, the project developed an implementation ıanual entitled *Integrating Related Services into Programs for Students ith Severe and Multiple Handicaps* (Smith, 1990). The process of plan- ıg and reviewing the document embodied collaborative teamwork with ıual participation by family members, related discipline representatives, ıd service providers from across Kentucky.

The document emphasizes the rationale for adopting a transdisciplı- ıry team model of service provision and addresses specific strategies to ıplement transdisciplinary teaming and integrated related services, in- uding (a) block scheduling; (b) collaborative assessments; (c) embedding lated services objectives and basic skills; (d) integrated service provision, tegrated adaptations and discipline-specific strategies; (e) consultation, aining, and role release; (f) information exchange and team meetings; and) administrative and implementation issues.

The document initially was used to train teams, including parents, from school districts in the Kentucky Systems Change Project. A team, consisting of a special educator, physical therapist, occupational therapist, speech-language pathologist, principal, and specialist in dual sensory impairments, provided training and used cooperative learning and group problem-solving activities to further model and demonstrate the benefits of collaborative teamwork to participants. On-site technical assistance and consultation assisted project school districts to implement this service model at the local level. Districts that have implemented integrated related services have gone from an interdisciplinary model with isolated or "pull-out" therapy services to a collaborative team process that includes ongoing communication, regularly scheduled team meetings, student- and family-centered consultation and team problem solving, and services that focus on each student's educational outcomes.

Implementation has been most successful at the local level when all planning, development, implementation, and evaluation activities have been done in a collaborative effort where local team members share equally in the process. Thus, collaborative teamwork not only has benefits in the provision of quality services for individual students, but is a necessary tool in implementing the process.

Another statewide barrier to quality integrated educational programs was the lack of appropriate communication programming for students with severe and multiple disabilities. Most speech-language pathologists had received limited training in appropriate programming for these students and did not feel competent or confident when working with these students and other team members. Communication "systems" or strategies were nonexistent for many nonspeaking students or were limited to laminated boards that contained a few photographs depicting students' basic needs (e.g., eat, drink, bathroom use, TV/toy/music, and so forth) or needs on community-based instruction (e.g., ordering in a fast-food restaurant). Communication programming was not viewed as an integral aspect of every activity in every setting across the student's day. In response, a two-day in-service training workshop was developed and conducted in five different geographical areas of Kentucky, training a total of ninety speech-language pathologists, with many participants representing school districts involved in the Kentucky Systems Change Project.

The workshop concentrated on three areas: (1) designing communication programming, including assessment of communication functions and ecological strategies, identification of communicative intent of aberrant behaviors, strategies for expanding students' communicative repertoire, incidental language instruction and techniques for promoting

ımmunication in natural contexts, and provision of instruction in tegrated school and community settings; (2) designing augmentative stems with particular emphasis on no-tech and low-tech systems in- uding symbol or calendar shelves, communication boards and book- ts, use of endless loop tapes with a tape recorder, eye gaze frames/ trans, construction of single switches for use with battery-operated vices; and (3) consultation and collaboration with families, classroom achers, and other team members.

Training was provided by a team of special educators and speech- nguage pathologists from the university and the community who have tensive knowledge and skills working with children and youth with vere and multiple disabilities. The team used group problem-solving and operative learning activities to increase participants' involvement in ıining and their skills in working with others. An additional session was ld for directors of special education and other administrative and super- sory staff to increase awareness related to the workshop content and to ster administrative support for integrated and collaborative service de- ery.

Subsequent on-site consultation and ongoing technical assistance was ovided to districts in the Kentucky Systems Change Project to assist in ıplementation. Implementation has been most successful in districts at focus on implementation of integrated related services and collabora- e teamwork in the provision of integrated programs. The content of the mmunication workshop was compiled into a training manual entitled *ɔmmunication Programming for Students with Severe and Multiple ndicaps* (Smith and Kleinert, 1991) and distributed to workshop partici- nts, numerous speech-language pathologists across the state, and direc- rs of special education in all school districts in Kentucky.

To achieve the goal of integrated education for students with severe sabilities, the project has sponsored several other training activities that nbody collaborative teamwork and/or specific programmatic strategies at promote collaborative efforts. Training participants typically include strict- and/or building-level teams composed of special education and gular education teachers, principals, directors of special education, re- ted services personnel, and parents from selected districts in the Ken- cky Systems Change Project. The strength of conducting training in a am format cannot be emphasized enough. The benefits are realized rough both change in individual team members' behavior and changes their ability to work together as a team to promote systems change at e local level and have maximum impact on improving the quality of ograms for individual students and their families.

The Kentucky Systems Change Project's Statewide Advisory Board formed a committee to develop a plan for changes needed in pre-service training programs in special education and related disciplines. The committee consists of representatives from special education programs at the five major state universities in Kentucky. At the University of Kentucky, project staff also work closely with the Director of Pre- service Training at the Interdisciplinary Human Development Institute (IHDI) to infuse information about integrated education and collaborative teamwork in both the core curriculum and in related coursework in education, social work, psychology, and medicine. Through the committee and IHDI pre-service training, changes include (a) using project products as required or supplemental readings in related coursework, (b) using cooperative learning strategies and collaborative teamwork to teach the course content, (c) incorporating collaborative teamwork with other disciplines in related coursework and practicum experiences, and (d) developing model programs as practicum sites close to each campus that exemplify best educational practices and encourage students to practice collaborative teamwork.

University of Vermont, Center for Developmental Disabilities: State of Vermont I-Team

The State of Vermont I-Team was established in 1975 to provide local education teams, consisting of families, educators, and related service providers, with technical assistance and training in provision of quality education for students with intensive educational needs. Originally funded by the U.S. Department of Education, the I-Team is now funded by the Vermont State Department of Education's Family and Educational Support Team and administered through the Center for Developmental Disabilities, the University Affiliated Program at the University of Vermont.

From the inception of the I-Team until recently, the *I* stood for "interdisciplinary." This seemed appropriate because the I-Team consisted of members representing various disciplines (e.g., education, psychology, occupational therapy) who shared information about assessment and services for the children they jointly served. But as time passed, I-Team members recognized that the label "interdisciplinary" did not accurately reflect the changing nature of the community-based services they provided. Because the name "I-Team" was already known to many, the group decided to keep the name but not define the *I*. Their brochure now reads, "State of Vermont I-Team: Providing Intensive Special Education Supports." While it may

eem like a small point, the change in name symbolizes the ever-evolving ature of I-Team services and philosophy.

In recent years, changes in the I-Team have reflected the underly- ıg assumptions of collaborative teamwork, assumptions shared both mong I-Team members and between I-Team members and consumers f I-Team services. Members of the I-Team provide collaborative assis- ınce to local educational teams and school districts; this represents a ıift away from the expert consultation models that were more pre- ɔminant in the past. Current I-Team services are based on collabora- ve consultation and problem-solving efforts, facilitated jointly by Team members and members of student individual planning teams. his evolution is consistent with philosophical and programmatic ad- ınces occurring nationally (e.g., special education as a service not a ace, service flexibility, services in integrated environments, consumer npowerment, family-centered services). The I-Team actively promotes creased demonstration of current exemplary practices in education, as ıtlined in Table 7-1 (Fox and Williams, 1991). The goal is to ensure at every student has opportunities to pursue meaningful and valued e experiences. The I-Team supports the principle that all children are st educated in their local educational setting.

ıBLE 7-1 Best Practice Statements

ıool Climate and Structure
1. The school's philosophy statement and objectives are developed by administrators, staff, students, parents, school board members and other community members and reflect the school's commitment to meeting the individual needs of all students in age-appropriate regular education and community settings.
2. The school's climate is established by administrators, staff, students, parents, school board members, and other community members and promotes respect for individual differences among students, encourages the development of positive self-esteem, establishes high achievement expectations for all students, and encourages the development of caring personal relationships among students and staff.
3. The school's code of conduct for students and staff is established by administrators, staff, students, parents, school board members, and other community members, emphasizes possible behavior, is applied in a consistent, fair manner, and takes into account the unique needs of individual students.

(continued)

TABLE 7-1 Best Practice Statements *(continued)*

School Climate and Structure

4. The school provides ample opportunities for students, staff, administrators, parents, school board members, and other community members to be recognized for their accomplishments, including helping others.
5. The general roles and responsibilities of all school staff (including contracted staff, such as an occupational therapist or psychologist) relative to providing instruction and support to all students are clearly delineated by administrators, staff, students, parents, school board members, and other community members.
6. The school's professional development process is developed by administrators, staff, students, parents, school board members, and other community members and includes in-service training, regularly scheduled observations with feedback, technical assistance, peer coaching, and mentoring.
7. The school's instructional support system (e.g., classroom-based model for delivering support services, teacher assistance team, individual student planning teams, special education pre-referral process, volunteer system) is developed by administrators, staff, students, parents, school board members, and other community members and is available to all students and staff.

Collaborative Planning

8. The school provides opportunities for staff, students, family members, and community members to become proficient at functioning in a collaborative manner (i.e., share responsibility and resources, make decisions by consensus, use a structured meeting agenda format, rotate team roles of facilitator, timekeeper, and recorder).
9. The school provides time during school hours for instructional support teams (e.g., individual student planning teams, teacher assistance teams, teaching teams) to meet and for individual team members to monitor services and to provide timely consultation, support, and technical assistance to families and staff.
10. For students with intensive needs in basic skill and/or social skill areas or who are challenged by their gifts and talents, individual student planning teams are convened that are responsible for the development and implementation of all aspects of the student's educational program (e.g., student goals, student schedules, procedures to address learning/behavior/management issues, transition plans, strategies to support the student and his or her teachers and family).

ABLE 7-1 *(continued)*

ollaborative Planning

11. Individual student planning teams consist of the student, family members, the student's general class teacher(s), and other appropriate persons based upon the student's needs (e.g., principal, Chapter I teacher, music teacher, physical therapist, one or two of the student's peers, teaching assistant, special educator, social worker, representatives of community agencies, family advocates).
12. The individual roles of each student planning team member, including related service providers and other consultants, are specified by the team and are supportive of the educational needs of the student.

cial Responsibility

13. The school facilitates the development of social responsibility and self-reliance by promoting student participation in volunteer organizations and activities (e.g., community service activities, peer tutoring/mentoring activities, student government, participation in decision making about important school or community issues).
14. The school's curriculum provides structured opportunities for students to learn about and appreciate individual differences among people.
15. The school's curriculum provides structured opportunities for students to develop appropriate social skills (e.g., making friends, cooperating with others, sharing, listening, avoiding fighting) that include frequent practice during school, home, and community activities.
16. The school provides opportunities for all students to participate in age-appropriate school-sponsored extracurricular activities (e.g., field trips, sports teams, clubs, dances, assemblies, student government).
17. For students with intensive needs in the social skill area, an individual program for increasing social skills is developed that includes (a) assessment of current skills in identified home, school, and community settings; (b) identification of adaptations and support needed to function in those settings; (c) procedures for working with school staff and families to incorporate social skill training and/or practice into school and family routines.

rricular Planning

.8. The school's curricula are developed by teachers/staff, students, parents, administrators, and community members and identify age-appropriate content (e.g., language arts, math, history, social/emotional,

(continued)

TABLE 7-1 Best Practice Statements *(continued)*

Curricular Planning

arts, health) and process-oriented (problem-solving and collaboration skills, study skills) goals and objectives that promote meaningful participation in age-appropriate activities in home, recreational, educational, work, and other aspects of community life, set a high standard of excellence, and address the needs of all students.

19. A variety of age-appropriate nonschool instructional settings (e.g., day care settings, the student's home, local stores, and job sites) are available to students and matched to individual needs for learning new skills or for generalizing skills to new settings.
20. The process for identifying curriculum content for an individual student with intensive needs in basic skill and/or social areas includes an analysis of the student's skills and interests and of the age-appropriate activities, skills, and adaptations needed for the student to function in specific home, school, work, recreation, and other community settings.
21. Objectives for students with intensive needs in basic skill and/or social areas specify criteria that include performance in the student's home, school, and other age-appropriate community settings.
22. Students with intensive needs in basic skill and/or social areas have paid work experiences in integrated community settings prior to leaving school.
23. The system for monitoring the progress of students with intensive needs in basic skill and/or social areas includes (a) indications of level of independence on identified skills/activities; (b) indications of environments in which those skills/activities have been demonstrated; (c) an annual summary; and (d) post-school follow-ups for purposes of program improvement.

elivery of Instructional Support Services

24. Instructional support services and staff (e.g., Chapter I, special education, speech and language, guidance, peer tutoring) are incorporated into ongoing school and community activities.
25. The decision to pull any student out of ongoing school or community activities to receive support services is a team decision based upon documentation that the student's needs could not be achieved through the use of supplementary aids and services in the classroom. This decision is not based upon staff preferences.
26. For students with needs (e.g., counseling, community-based training, medical care) that cannot be met through ongoing activities, pull-out is

BLE 7-1 *(continued)*

livery of Instructional Support Services

scheduled during activities that the team determines to be lowest priority for the student.

7. The delivery of instructional support services (e.g., consultation, training, technical assistance, cooperative planning with support staff, team teaching with support staff, support staff delivering direct services in the classroom, release time for planning, access to instructional support teams) includes support to teachers, teaching assistants, volunteers, and other direct instructional staff.

vidualized Instruction

1. The school provides all students with opportunities to set personal goals and to plan, with parents and teachers, how their goals will be addressed during the school year.
2. The school provides opportunities for all staff to become proficient at previewing instructional activities, giving clear written and verbal directions, checking for student understanding, and giving students constructive feedback and positive reinforcement.
3. The school provides opportunities for all staff to become proficient in using a variety of instructional methods (e.g., cooperative learning, whole language, peer tutoring, drill and practice, incidental teaching, computer-assisted instruction), matching methods to individual student needs, and incorporating methods into ongoing activities.

   A variety of instructional groupings (e.g., small group, large group, multi-aged groups, cooperative group, individual instruction) are available to all students and matched to individual student needs.

   A variety of instructors (e.g., teachers, teacher assistants, same-age peer tutors, cross-age peer tutors, peer mentors, volunteers) are available to students and matched to individual student needs.

   The school provides opportunities for all staff to become proficient at using a variety of instructional materials (e.g., real items, photographs, drawings, worksheets, textbooks, audiovisuals), at matching materials to individual student needs, and incorporating materials into ongoing activities.

   The school provides opportunities for all staff to become proficient at teaching several different goals from the same curriculum area through a single group activity (e.g., during a group math activity some students may be led in addition while others are learning counting or one-to-one correspondence).

(continued)

TABLE 7-1 Basic Practice Statements *(continued)*

Individualized Instruction

35. The school provides opportunities for all staff to become proficient at teaching goals from different curriculum areas through the same group activity (e.g., during a group social studies activity some students may have a primary goal of learning the social studies content while others have primary goals of learning language or communication).
36. The school provides opportunities for all staff and students to become proficient at identifying a variety of ways students can acquire or demonstrate skills/knowledge (e.g., signing, writing, typing, gesturing, oral tests or reports, art displays, taped presentations), matching them to individual student needs, and incorporating them into ongoing activities.
37. For each lesson currently being taught, there is a written instructional program or lesson plan that is available to all direct instructional staff.
38. Student progress is monitored and analyzed on a regularly scheduled basis.
39. Decisions to modify instructional groupings, methods, or materials are based upon measures of student progress.
40. A current schedule of daily student activities that describes what is being done, when, and with whom, is available and readily accessible.

Transition Planning

41. There are procedures for facilitating the smooth transition of all students from one educational setting to another, and from school to post-school life.
42. A written plan for transitioning each student with intensive needs, including gifted students from one educational setting to another is developed and implemented in advance of the move (e.g., six to nine months).
43. For high-school-aged students with intensive needs, a written graduation plan for transition to post-school life (e.g., employment, education, recreation, residential) is developed and implemented well in advance of the transition (e.g., at age fourteen) and reviewed annually.

Family-School Collaboration

44. The school provides families with the freedom to visit the school and to communicate regularly with school staff on topics important to both the family and the school.
45. There is information available to families that assists them to access informal support networks and connect with community resources (e.g.,

TABLE 7-1 *(continued)*

Family-School Collaboration

day care programs, recreation programs, counseling, respite care, vocational rehabilitation, mental health).

46. The school provides families with opportunities for consultation, training, and follow-up from school staff to maximize their children's development in home and other community settings.
47. Families are included in advisory, decision-making, and advocacy activities of the school (e.g., advisory committees, curriculum committees, development of the school philosophy and climate, school planning teams, staff development committees).
48. Families are included in the decision-making process to determine the high-priority educational needs of their children, and how and where (school, home, or community settings) their children will be taught.
49. Instructional planning includes procedures for assisting families to incorporate instruction and/or practice of skills into ongoing home and community activities.

Planning for Continued Best Practice Improvement

50. A plan for improving best practice–based services within the school is developed every three to five years by a school planning team consisting of administrators, staff, students, parents, school board members, and other community members.
51. The school's plan includes (a) a review of the school's goals and the extent to which goals and best educational practices are achieved; (b) an examination of services offered by the school and how they relate to student, family, and community needs; (c) follow-up measures of students' performance in the next school setting or post-school settings; and (d) guidelines for improving best practices.
52. The school planning team meets periodically to monitor progress on implementing the school's plan and to make necessary adjustments in activities and timelines for achieving the plan.
53. The school's plan and subsequent reports of progress in implementing the plan are disseminated to parents, school district staff, and community members.
54. There is a periodic evaluation of the planning process by school staff, students, parents, community members, and persons from outside the school (e.g., staff from other schools, colleges and universities, state and local government).

Source: Reprinted with permission from Fox and Williams (1991).

Students who reside in Vermont and require special education services to meet their educational needs may be referred for I-Team services by anyone on the student's local educational team or by the special education administrator. Historically, the primary populations served by the I-Team included students with severe, profound, or multiple disabilities, including those identified as deaf-blind. Recently, I-Team services have been expanded to include students with serious emotional disturbance who are transitioning into their local schools from more restrictive settings (e.g., residential facilities) or those who are at imminent risk of being removed from their general education placement.

Traditional eligibility for I-Team services has meant the student had a categorical disability label as well as the need for special education. In this context, special education means specially designed instruction, above and beyond what is typically available in the general education classroom. Of course, what is typically available in general education classrooms varies widely. In 1990, Vermont's Special Education Reform Act 230 was signed into law. Act 230 was designed to increase the capability of general education teachers, thus reducing the need to label students in order for them to receive appropriate instruction in general education classes. In part,

> Act 230 is based on the premise that all schools must begin to pursue a comprehensive system of education services that will result, to the maximum extent possible, in all students succeeding in the regular education classroom. It is hoped that one day only a small percentage of students will need to be labeled "disabled" in order to access "special" education because all teachers will be trained and have the necessary resources to teach all children in the regular classroom [Vermont State Board of Education, 1990].

This means that in some school districts where teachers are prepared to teach heterogeneous groups, students previously labeled "disabled" may no longer be so labeled and the accommodations they formerly received only through referral for special education services will now be part of what is typically available through general education.

This fundamentally changes not only the concept of eligibility for special education and I-Team services, but also changes the context of services to increasingly less restrictive environments for all types of students. A large portion of current I-Team activities are directed toward supporting the education of students with disabilities in general education classrooms. Whereas I-Team members traditionally provided technical assistance and training to special education personnel, they are increasingly providing supportive services to general education personnel.

The I-Team consists of a core group of specialists who are based at the enter for Developmental Disabilities at the University of Vermont. Historically, the Core I-Team has consisted of a coordinator who is an educaonal consultant, an occupational therapy consultant, a physical therapy nsultant, and a communication consultant. The Core I-Team added a al sensory impairment specialist in 1987, followed by a clinical psychol-y consultant and family resource consultant in 1990. Core I-Team mem-s provide services statewide within Vermont. Consistent with the ncept of services and supports that are community-based, five I-Team ional offices were established in 1978 and 1979. From 1979 to 1988 each eam region was staffed with a full-time educational consultant. In 1988 art-time therapy consultant (either OT or PT) and a part-time family ource consultant were added to each region. Each regional family reurce consultant is a parent of a child with a disability. Regional team mbers provide services to Vermont schools within their geographic ion, each having approximately a dozen Vermont Supervisory Unions.

I-Team services for a designated student, family, or school are coordied by the I-Team Regional Educational Consultant who draws upon e I-Team members as needed. The consultation, technical assistance, training provided by the I-Team are highly individualized. Examples ude (a) off-campus university courses on topics of regional interest; (b) ervice training; (c) current literature and other information resources , I-Team newsletter); (d) on-site collaborative consultation; (e) assise with service delivery planning; (f) consultation to related service viders; (g) family support services; (h) information and referral; (i) tranon planning; and (j) ongoing assistance. I-Team services are documented ugh a referral and permission packet, a general service plan, and spe-: action plan.

As noted previously, the I-Team is funded by the Vermont State artment of Education's Family and Educational Support Team and inistered through the Center for Developmental Disabilities at the versity of Vermont. This link between the state education depart-t, the university, and the field creates opportunities for efficient wide dissemination of information and innovations as well as the lopment of a shared philosophical framework among the various tituencies in the state. The I-Team also serves as a conduit for r UAP-administered initiatives. For example, exemplary approaches loped and tested through federally funded grants on topics such as wide systems support, early childhood programs, and services for nts with deaf-blindness are disseminated to the field, in part, igh the I-Team. This creates an ongoing mechanism for teams in areas to have access to the most recent innovations in the field.

I-Team members are an integral part of personnel preparation programs at the University of Vermont. All I-Team core members have faculty appointments commensurate with their educational credentials and experiences (i.e., lecturer, assistant professor, associate professor). One graduate course, Physical and Developmental Characteristics of Learners with Disabilities, is taught by three I-Team members from different disciplines. Two other graduate courses, pertaining to communication and applied behavior analysis, are taught by an I-Team core member. I-Team members regularly guest-lecture in many other special education graduate courses and in classes in other departments (e.g., physical therapy) at the University of Vermont. I-Team members also supervise practicum students in integrated early childhood settings. Involvement of I-Team members in personnel preparation provides ongoing opportunities to model collaborative teamwork among professionals trained in different disciplines.

Throughout its history and development, the I-Team has changed in order to respond to changing consumer needs and to accommodate the emerging vision of Vermont's Education Goals, listed in Table 7-2 (Vermont Department of Education, 1990). The location of services for students with disabilities has shifted from special classes and other separate environments to increasingly integrated sites, most notably general education classrooms in neighborhood schools where students with all types of disabilities receive special education supports. Correspondingly, the adults who receive I-Team assistance have changed from primarily special education personnel to increasing numbers of general education personnel and families.

I-Team membership has changed to include more disciplines and to include a family service component. I-Team services, formerly provided by one core team from one central location, are provided by increasingly

TABLE 7-2 Vermont's Education Goals

Goal 1: Vermonters will see to it that every child becomes a competent, caring, productive, responsible individual and citizen who is committed to continued learning throughout life.
Goal 2: Vermonters will restructure their schools to support very high performance for all students.
Goal 3: Vermont will attract, support, and develop the most effective teachers and school leaders in the nation.
Goal 4: Vermont parents, educators, students, and other citizens will create powerful partnerships to support teaching and learning in every community.

decentralized regional and local teams. I-Team consultation has shifted from expert consultation, in which team members advised local service providers, to collaborative consultation, in which interested parties work together as equals. The I-Team's continued importance as a mechanism to promote educational quality for students with disabilities in Vermont has been predicated on its ability to change in ways that are consistent with an increasingly inclusionary vision of people with disabilities.

CONCLUSION

Collaborative teamwork is now recognized as an essential component of effective services for persons with disabilities. Collaboration is fundamental to providing services and supports that truly respond to consumer needs, which is predicated on including consumers as equal members of their own planning teams and ensuring availability of appropriate services in the community. Three University Affiliated Programs for Persons with Developmental Disabilities offered examples of collaboration (a) among universities, state agencies, and local service providers; (b) among providers of training and technical assistance; and (c) among members of local educational teams for students with severe disabilities. Examples illustrated how trainers and technical assistants both model collaborative teamwork and use strategies such as cooperative learning and group problem solving so trainees can experience collaboration themselves as they learn about collaborative teams for students with severe disabilities.

REFERENCES

Brown, L., Branston-McLean, M.B., Baumgart, D., Vincent, L., Falvey, M., and Schroeder, J. (1979). Using the characteristics of current and subsequent least restrictive environments in the development of curricular content for severely handicapped students. *AAESPH Review, 4*(4), 407–424.

Cooper, J., and Mueck, R. (1990). Student involvement in learning: Cooperative learning and college instruction. *Journal on Excellence in College Teaching, 1*, 68–76.

Fox, T., and Williams, W. (1991). *Best practice guidelines for meeting the needs of all students in local schools.* Burlington: University of Vermont, Center for Developmental Disabilities.

Giangreco, M.F., Cloninger, C.J., and Iverson, V.S. (1993). *COACH: Choosing options and accommodations for children.* Baltimore: Paul H. Brookes.

Giangreco, M., and Putnam, J. (1991). Supporting the education of students with severe disabilities in regular education environments. In L. Meyer, C. Peck, and L. Brown (Eds.), *Critical issues in the lives of people with severe disabilities* (pp. 245–270). Baltimore: Paul H. Brookes.

Giangreco, M., York, J., and Rainforth, B. (1989). Providing related services to learners with severe handicaps in educational settings: Pursuing the least restrictive option. *Pediatric Physical Therapy, 1*(2), 55–63.

Hudson, M., and Kleinert, H.L. (1991). *Curriculum planning process and model local catalogs for students with moderate and severe disabilities.* Lexington: University of Kentucky, Interdisciplinary Human Development Institute.

Hutchison, D. (1978). The transdisciplinary approach. In J.B. Curry (Ed.), *Mental retardation: Nursing approaches to care* (pp. 65–74). St. Louis: Mosby.

Johnson, D.W., and Johnson, F. (1987). *Joining together: Group theory and group skills* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Johnson, D.W., and Johnson, R.T. (1987). *Learning together and alone: Cooperative, competitive, and individualistic learning* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Johnson, R.T., Johnson, D.W., and Smith, K.A. (1990). Cooperative learning: An active learning strategy for the college classroom. *Baylor Educator, 15*(2), 11–16.

Karan, O., Brandenburg, S., Sauer, M., Yoder, D., Mathey-Laikko, P., Villarruel, F., and Dolan, T. (1986). Maximizing independence for persons who are developmentally disabled: Community-based programs at the Waisman Center University Affiliated Facility. *Journal of The Association for Persons with Severe Handicaps, 11*(4), 286–293.

Kiernan, W.E., and Schalock, R.L. (1987). *Economics, industry, and disability: A look ahead.* Baltimore: Paul H. Brookes.

Kleinert, H.L., Smith, P.D., and Hudson, M. (1990). *The quality program indicators manual for students with moderate and severe handicaps.* Lexington: University of Kentucky, Interdisciplinary Human Development Institute.

Long Range Task Force on University Affiliated Facilities (1976). *The role of higher education in mental retardation and other developmental disabilities.* Washington, DC: Association of University Affiliated Programs for the Developmentally Disabled.

Lyon, S., and Lyon, G. (1980). Team functioning and staff development: A role release approach to providing integrated educational services for severely handicapped students. *Journal of the Association for the Severely Handicapped, 5*(3), 250–263.

Mount, B., and Zwernick, K. (1988). *It's never too early, it's never too late: A booklet about positive futures planning.* St. Paul, MN: Metropolitan Council.

O'Brien, J. (1987). A guide to life-style planning. In B. Wilcox and G.T. Bellamy (Eds.), *A comprehensive guide to The Activities Catalogue* (pp. 175–189). Baltimore: Paul H. Brookes.

Patterson, E.G., D'Wolf, N., Hutchison, D., Lowry, M., Schilling, M., and Siepp, J. (1976). *Staff development handbook: A resource for the transdisciplinary process.* New York: United Cerebral Palsy Associations.

Racino, J.A., Walker, P., Taylor, S., and O'Connor, S. (1992). *Housing, support, and community: Choices and strategies for adults with disabilities.* Baltimore: Paul H. Brookes.

Rainforth, B. (1985). *Collaborative efforts in the preparation of physical therapists and teachers of students with severe handicaps.* Unpublished doctoral dissertation, University of Illinois at Urbana-Champaign.

Rainforth, B., and York, J. (1987). Integrating related services in community instruction. *Journal of the Association for Persons with Severe Handicaps, 12*(3), 190–198.

Rainforth, B., York, J., and Macdonald, C. (1992). *Collaborative teamwork for students with severe disabilities: Integrating therapy and educational services.* Baltimore: Paul H. Brookes.

Schaffner, C.B., and Buswell, B.E. (1990). *Opening doors: Strategies for including all students in regular education.* Colorado Springs, CO: PEAK Parent Center.

Smith, P.D. (1990). *Integrating related services into programs for students with severe and multiple handicaps.* Lexington: University of Kentucky, Interdisciplinary Human Development Institute.

Smith, P.D., and Kleinert, J.O. (1991). *Communication programming for students with severe and multiple handicaps.* Lexington: University of Kentucky, Interdisciplinary Human Development Institute.

Stainback, S., and Stainback, W. (Eds.) (1992). *Curriculum considerations in inclusive classrooms: Facilitating learning for all students.* Baltimore: Paul H. Brookes.

Sternat, J., Messina, R., Nietupski, J., Lyon, S., and Brown, L. (1977). Occupational and physical therapy for severely handicapped students: Toward a naturalized public school model. In E. Sontag, J. Smith, and N. Certo (Eds.), *Educational programming for the severely and profoundly handicapped* (pp. 263–287). Reston, VA: Council for Exceptional Children.

Vandercook, T., York, J., and Forest, M. (1989). The McGill Action Planning System (MAPS): A strategy for building the vision. *Journal of the Association for Persons with Severe Handicaps, 14*(3), 205–215.

Vermont Department of Education (1990). *Vermont's education goals.* Montpelier, VT: Author.

Vermont State Board of Education (1990). *Special education reform: Act 230.* Information Curricular. Montpelier, VT: Author.

Villa, R., Thousand, J., Stainback, W., and Stainback, S. (1992). *Restructuring for caring and effective schools.* Baltimore: Paul H. Brookes.

Whitehouse, F.A. (1951). Teamwork, an approach to a higher professional level. *Exceptional Children, 18*(1), 75–82.

York, J., Rainforth, B., and Giangreco, M. (1990). Transdisciplinary teamwork: Clarifying some misconceptions. *Pediatric Physical Therapy, 2*(2), 73–79.

York, J., Rainforth, B., and Wiemann, G. (1988). An integrated approach to therapy for school-aged learners with developmental disabilities. *Totline, 14*(3), 36–40.

York, J., and Vandercook, T. (1991). Designing an integrated education for learners with severe disabilities through the IEP process. *Teaching Exceptional Children, 23*(2), 22–28.