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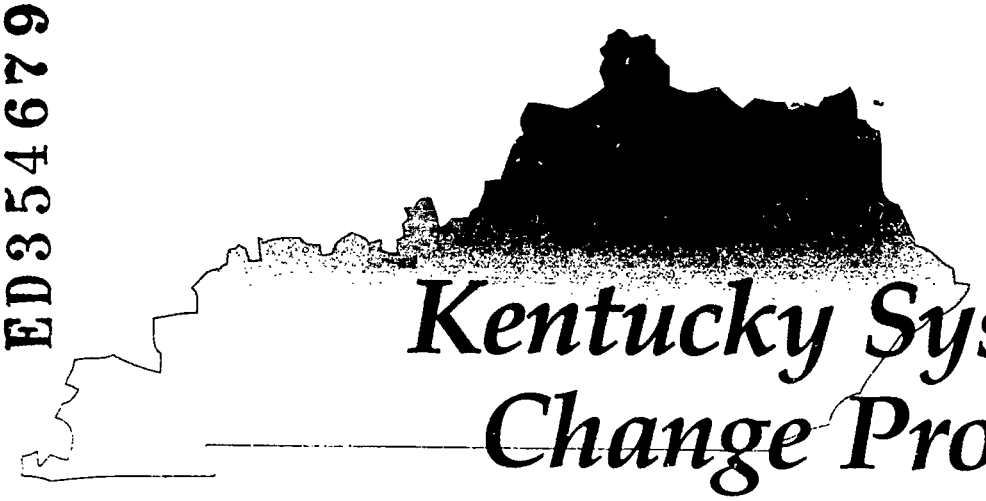
ABSTRACT

This document provides information regarding the coordination of services in educational settings to address the complex needs of students in Kentucky with severe and multiple handicaps, ages 3 to 21. The first section outlines the role of related services in educational settings. The second section describes various team models of service delivery, with emphasis on the transdisciplinary team approach. The third section describes quality program indicators related to transdisciplinary service delivery and integrated therapy, with suggestions on how to implement these in educational settings. These indicators include block scheduling; assessments for programming purposes; embedding of related services objectives into individualized education programs; integrated service delivery; integrated adaptations; consultation, training, and role release; and information exchange and team meetings. The final section discusses administrative issues related to implementing transdisciplinary services, with suggested staff development activities. Appendixes provide transdisciplinary teaming forms, a team activity on defining administrative barriers to implementation, a list of training resources, a list of 20 additional readings, and a list of organizational and print resources on occupational and physical therapy services. (Contains 16 references.) (JDD)



Kentucky Systems Change Project

Integrating Related Services into Programs for Students with Severe and Multiple Handicaps

Pamela D. Smith, Ed.D.
1990

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INTEGRATING RELATED SERVICES INTO PROGRAMS FOR STUDENTS WITH SEVERE AND MULTIPLE HANDICAPS

Pamela D. Smith, Ed.D.

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Interdisciplinary Human Development Institute
University of Kentucky

and the

Office of Education for Exceptional Children
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FOREWORD

One of the greatest challenges facing special education teams is how to coordinate services to address the complex needs of students with severe and multiple handicaps. Transdisciplinary teamwork and integrated therapy were conceptualized some two decades ago to achieve this goal, and continue to be recognized as "best practices" in the field of special education. Despite our familiarity with these terms, our desire to serve students effectively, and adoption of other best practices, transdisciplinary and integrated therapy services are not yet commonplace. Increasingly, however, parents and professionals are recognizing that a collaborative team approach is fundamental if we are to realize the benefits of other best practices, such as school integration and environment-referenced curricula. Thus, there is renewed attention to how teams function within educational settings.

Until recently, there have been few materials available to guide programs as they explore the concepts of transdisciplinary teamwork and integrated therapy, or as they devise strategies to operationalize these concepts. Understanding the various team models, the differences between medical and related educational services, options for scheduling services, and the principles of role release are among the information teams require. Furthermore, there are issues in implementation that are unique to each state, due to their unique policies and regulations. This document helps to fill the information gap, while addressing issues that are particularly relevant to Kentucky.

The State of Kentucky is commended for its vision in initiating this statewide effort. During the past two years, I have had the pleasure of meeting some of the teachers, therapists, and administrators who have supported this initiative and who have helped to shape this document. If the commitment thus far is representative, the prospects for exemplary services throughout Kentucky are truly exciting.

Systems change is not an easy process, however. As team members struggle with redefining their roles and relationships and adopting new procedures, they are encouraged to keep sight of their goals. They are also reminded to draw upon the strength they develop even as they struggle: the strength of many people pooling their knowledge and creativity to find a better way. It is only through this collaboration that positive change will be achieved, and the needs of students with severe and multiple handicaps will be fulfilled.

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INTRODUCTION

The purpose of this support document is to provide administrators, teachers, parents, and therapists with information regarding the role of related services in educational programs for students with severe and multiple handicaps ages 3-21.* This document was developed through the Kentucky Systems Change Project for Students with Severe Handicaps and has included input from all disciplines involved in providing these services.

The first section of this document is devoted to the role of related services in educational settings. The second section includes a description of various team models of service delivery with emphasis on the transdisciplinary team approach. The third section contains a description of the quality program indicators related to transdisciplinary service delivery and integrated therapy with suggestions on how to implement these in educational settings. The final section of this document provides a discussion of administrative issues related to implementing transdisciplinary services with suggested staff development activities.

*NOTE: The concepts presented in this document apply to children and youth ages 3-21. The information presented does not apply to services for infants and toddlers (ages 0-2), whose primary early intervention needs may be therapy services.

QUESTIONS AND ANSWERS ON

THE ROLE OF RELATED SERVICES IN EDUCATIONAL SETTINGS

This section is devoted to a discussion of the role of related services in educational settings. A question-answer format is used to address a few of the most frequently asked questions.

What is the Role of Related Services in Educational Settings?

According to PL 94-142, related services are those services other than special educational services that **"...are required to assist a handicapped child to benefit from special education...".** The services listed in the regulations include transportation, speech pathology and audiology, psychological services, physical and occupational therapy, recreation, early identification and assessment of disabilities in children, counseling services, and medical services for diagnostic and evaluation purposes. School health services, social work services, and parent counseling and training are also included. Each related service is not restricted to direct intervention but may include consultative and assessment activities that are necessary for program planning, implementation, and program evaluation.

What is the Role of Each Discipline in Programming for Students with Severe and Multiple Handicaps?

In an extensive study of parents, teachers, and related services personnel, Giangreco (1990) validated types and relative importance of several roles for related services personnel. The roles include (starting with most important) a) developing adaptations and/or equipment to encourage functional participation, b) facilitation of functional skills and activities, c) reciprocal consultation with team members, d) removing or modifying barriers to participation, e) prevention of regression, deformity and/or pain, and f) being a resource or support to families. Giangreco (1990) termed these "outcome or enabling roles" because they are used to achieve functional outcomes for students.

While all related services personnel can be expected to assume these general roles, there are also areas of expertise that each discipline offers in educating students with severe and multiple disabilities. However, school districts need to

use caution in applying these role descriptions to individuals. Variability will always exist among members of each discipline based on each individual's formal training and professional experiences.

Physical Therapist: Provides input regarding optimal physical functioning in age-appropriate functional activities targeted for instruction in conjunction with the teacher, parent(s), and other team members; consults with teachers, parents, and other team members; provides training to parents and other team members when needed; areas of expertise include gross motor skills, positioning, handling and specific physical guidance techniques, mobility training, and transitions including transfer techniques; prevention of acquired deformities and subsequent loss of function.

Occupational Therapist: Provides input regarding optimal functioning in age-appropriate functional activities targeted for instruction in conjunction with the teacher, parent(s), and other team members; consults with teachers, parents, and other team members; provides training to parents and other team members when needed; areas of expertise include use of upper extremities and needed fine motor skills in daily activities and routines; visual motor skills and eye-hand coordination; oral motor development and feeding techniques; prevention of acquired deformities and subsequent loss of function.

Speech Therapist: Provides input regarding communication programming in age-appropriate functional activities targeted for instruction in conjunction with the teacher, parent(s), and other team members; consults with teachers, parents and other team members; provides training to parents and other team members when needed; areas of expertise include assessment of environmental demands for communication and social interactions, design and implementation of augmentative methods (requires special training), and prespeech and feeding techniques (requires special training) (see Smith & Kleinert, 1989).

School Nurse: Provides input regarding tube feeding, catheterization, suctioning, and administering medications; plans for students' safety (e.g. evacuation procedures); provides input on the effects of medical conditions, health impairments, medications, and seizure disorders on students' educational program; provides information on limitations created by medical and health conditions; consults with teachers, parents, and other team members on medically related issues; provides training to parents and other team members when needed.

Adapted Physical Educator: Provides consultation to physical educators, teachers, parents and other team members regarding adaptations needed to participate in regular physical education and recreational activities; provides specially designed physical education programs for students who are not able to participate in regular physical education programs; areas of expertise needed include motor activities, sports, games, and recreation/leisure activities; consults with teacher, physical and/or occupational therapist, parents and other team members to develop and implement programs.

School Psychologist: Provides counseling and behavioral consultation for identified students; administers and interprets the results of psychological and educational tests.

Other consultants on the team may include specialists in the areas of orientation and mobility, vision, hearing, dual sensory impairments (deaf-blind), assistive technology, rehabilitation engineering, and others who may be required to serve students with specialized needs.

What is the Role of the Special Education Teacher?

The role of the special education teacher is to work cooperatively with the parents to a) identify age-appropriate functional activities as a context for instruction of basic skills, b) consult with regular classroom teachers on student's needs in integrated or mainstreamed activities, c) coordinate the delivery of special education and related service in terms of daily programming.

Who Determines How Much and What Type of Related Services are Required, and the Duration of Those Services?

The SBARC (school-based admissions and release committee) is comprised of a building administrator, special education teacher, other teachers who work with the student, team members from other disciplines (e.g. OT, PT, speech, etc.), the student's parent(s), and student when appropriate are responsible (as a team) for determining individual student's need for related services. This decision should be based on the assessed individual needs of the student. The related services provided must be educationally relevant and required for the student to benefit from special education services. The type, extent, and duration of related services are reviewed by the team on an annual basis. Revisions in services provided may occur at the annual review or anytime during the school year that a change in services is deemed necessary by the SBARC.

Type, extent, and duration of related services are determined individually for each student, rather than by one individual on the team or a district or building level policy (either written or unwritten) arbitrarily applied to all students. Further, a physician's prescription that states a specific amount and frequency of therapy services cannot be used to make these determinations in an educational setting. The SBARC (not the physician or any one person) determines the service delivery configuration based on each student's educational needs. When physicians send written specifications, it is the school system's responsibility to relate the purpose of occupational and physical therapy services in the educational setting to the physician and ask him/her to use vocabulary and terminology consistent with this purpose.

What are the Differences Between Therapy as a Related Educational Service and Therapy as a Medical Rehabilitation Service?

When OT, PT, and other therapies are related educational services, decisions regarding what therapy is provided, how it is provided and by whom are directly tied to the student's overall educational program. All disciplines (team members) support or foster the attainment of these educational goals. Therapy and other related services thus become a means or method to attain educational goals and objectives rather than the focus of separate goals or objectives. Then, school-based therapy is integrated into the student's educational program as a means to enhance functioning and attain educational objectives.

Clinic/hospital-based therapy reflects on a medical model of intervention. Intervention is aimed primarily at improving functioning in the area in question (e.g. physical functioning, speech). Historically, medical rehabilitation services have not been directed toward educational goals or the natural environment in which the individual must function. Using this "isolated therapy" model for students with more severe and multiple handicaps, improvements made in therapy sessions do not carry over or generalize to the student's daily functioning or attainment of educational goals.

What if a Student Could Benefit From Both Types of Therapy Services? Is the School Required to Provide Both?

The school system is required to provide those therapy services that the SBARC determines are necessary to achieve the overall educational goals and objectives developed for the student (related educational services). The school system does not have to provide additional therapy services above those needed by the child in order to "benefit from special education".

In educational settings, traditional medical rehabilitation services conducted in isolation is considered secondary in importance to related educational services to meet the student's educational needs. Thus, therapists carefully and diligently instruct parents and students themselves to carry out some therapy activities at home. Students who require more intensive rehabilitative services will need to look to other sources for these services. However, the SBARC should be prepared to provide parents with community or regional resources so that they may obtain additional therapy services for their child if they choose. Some options for parents to obtain rehabilitative services include private practices, hospital or clinic services, or provision of these by therapist in private practice at the school after school hours.

OVERVIEW OF SERVICE DELIVERY MODELS

Students with the most severe and multiple handicaps have one thing in common: They require persons from various disciplines to design appropriate instructional strategies to implement optimal educational programs. Because of their multiple and complex needs, they benefit from a team approach to assessment, program planning, and service delivery. The following section provides an overview of various team models of service delivery. Read these sections with program implementation team in mind. The concepts presented in this document are meant to enhance the team implementation of the SBARC's recommendations and decisions as contained in the Student's IEP.

Primary emphasis is placed on the transdisciplinary approach, which is the recommended model for students with severe and multiple handicaps. Understanding the differences among the three team models promotes understanding each team member's orientation, based on his/her previous experiences or lack of experiences with these approaches. Much of this section is based on the works of Campbell (1987), Lyon and Lyon (1980), McCormick and Goldman (1979), Orelove and Sobsey (1987), and Rainforth and York (1987).

Multidisciplinary and Interdisciplinary Team Approaches

The **multidisciplinary team approach** follows a medical model of service delivery. In this approach, professionals with expertise in different disciplines assess and work with the student individually. No formal attempt is made to allocate needed resources by setting program priorities for students. The multidisciplinary approach does not consider overlap among disciplines and assumes that the problem is isolated to one particular domain or area of

development. The disadvantages of the multidisciplinary model are primarily related to assessment and educational program planning. These disadvantages are described below.

1. **Assessment:** no individual can be an expert in all or even several areas; no discipline takes into account the whole child and each discipline/team member conducts assessments related to their particular area of expertise; assessments typically are conducted in isolation (e.g. therapy room) outside natural environments; isolated assessments increase the likelihood of inaccurate or inconsistent results and recommendations, interfering with educational program planning and greatly reducing the quality of the student's program.

2. **Educational Program Planning:** recommendations provided by each discipline/team member are often numerous and frequently too complicated to implement; (How many times have recommendations been received by the school system from a therapist or specialist who works outside the educational setting which were not readily understandable or useful in developing the student's program?); recommendations made by one team member may conflict with recommendations made by other team members; disciplines typically stop at recommendations and leave implementation up to the teacher without proper instruction and ongoing consultation.

The multidisciplinary approach is not the recommended service delivery model in educational settings for two main reasons. First, the focus of related services for students with moderate, severe, and multiple handicaps is on the overall educational goals across the four domains: domestic, community/school, vocational, and recreation/leisure. Thus, disciplines can not limit their intervention to their area of expertise (e.g. motor development, communication) or one basic skill area, because students with severe and multiple handicaps typically have motor, sensory, communication, and cognitive needs that affect their functioning across all domains and activities. Second, the multidisciplinary approach provides no formal means of communication among disciplines; thus service delivery is fragmented. Within this model, disciplines may or may not work toward the same goals, and may inadvertently actually work against each other in some cases.

The **interdisciplinary team approach** is very similar to the multidisciplinary model in that assessments are conducted in isolation of other team members. However, the interdisciplinary model has two advantages: a) a formal communication system is established by assigning a case manager or team leader to coordinate services, and b) programming decisions are made by the

whole team. However, the interdisciplinary approach has many of the same problems as the multidisciplinary model in the areas of assessment, program planning, and implementation, resulting in diffused service delivery. Provision of related services remains separate/isolated or is delegated to the teacher without adequate training, consultation, or systematic follow-up. Both the multidisciplinary and interdisciplinary models result in "isolated" service delivery, that is services are delivered outside natural settings and situations that the student is expected to perform the skills.

The following problems are inherent in isolated service delivery or **isolated therapy** promoted by both the multidisciplinary and interdisciplinary approach:

1. Assessments conducted in isolation of natural environments (e.g. therapy room), do not identify what the student actually can do in the "real world" or what his/her actual needs are.

2. Discipline specific assessments often test selected isolated skills instead of skill clusters that are required to perform daily activities.

3. Results of assessments usually provide diagnostic "labels" and descriptions of disabilities, but do not provide adequate guidance on how to remediate the skill deficits.

4. When disciplines function in isolation of each other, it is difficult (if not impossible) to collaborate on enhancing the performance of individual students in natural settings and situations.

5. Students typically receive too little treatment in critical areas such as mobility and communication, which are vital to their daily functioning across all activities.

Both the multidisciplinary and the interdisciplinary models fall short in insuring quality program planning and service delivery. A more effective approach would be an "integrated" service delivery approach that is dependent upon transdisciplinary teaming.

Transdisciplinary Team Approach

The transdisciplinary team approach is characterized by sharing or transferring of information and skills across traditional discipline boundaries. In this model, team members all provide information and/or teach intervention techniques to

each other to promote consistency in program implementation for individual students. Therapists and others assume a consultative role to the teacher. The key concepts in the transdisciplinary team apprcach include:

Shared Goals: All team members' efforts are focused on an overall set of objectives (IEP). Each discipline does not write a separate IEP or set of objectives.

Role Release: Some functions related to one's own discipline are "released" to or performed by another discipline/team member. The roles of the disciplines become more flexible, and discipline lines are less distinct.

Teaching-Learning Process: Team members teach others new skills and learn new skills from other team members. Role release depends on this teaching-learning process. It is a growth process for team members and occurs as part of the evolution of a "team" over a period of time.

An outgrowth of the transdisciplinary model has been an **integrated therapy approach**. In this approach, traditional therapy objectives are taught across the day in real-life situations utilizing therapeutic intervention methods to improve students' performance. The integrated therapy model incorporates a strong indirect therapy component that heavily relies on systematic and on-going consultation. It does not exclude direct therapy, although this must be provided in an integrated manner, also. The four basic assumptions of an integrated therapy approach include (adapted from Sternat, Messina, Nietupski, Lyon, & Brown, 1977):

1. Assessment of motor, sensory and communication abilities is best conducted in natural environments.

2. Students are taught clusters of motor, sensory and communication skills through age-appropriate functional and meaningful activities.

3. "Therapy" occurs throughout the day in all situations and settings in which the student functions.

4. Basic skills (motor, sensory, communication) are taught and verified in the situations and settings in which they occur.

Two major concerns commonly arise regarding an integrated therapy approach:
a) Teachers will replace or be expected to become therapists, and/or
b) Teachers cannot be taught (or will not be taught) to assume roles traditionally performed by therapists. The first concern is not a valid one since therapists will

always be needed to conduct assessments and design intervention techniques (to be taught to others) for students with needs in their area of expertise. However, therapists must be provided information and direction to assume their role in an educational setting, particularly if their training and/or professional experiences have been limited to hospital settings or other medical facilities.

To address the second concern, teachers do learn these new skills. Parents have been taught these skills by other disciplines for years in early intervention programs. Teachers must understand that therapists input is relevant and valuable to develop interventions that enable students to achieve their educational goals. Also, therapists and other team members have much to learn from teachers, particularly in understanding the philosophy and overall focus of the educational program (e.g., age-appropriate functional goals and integrated activities) for individual students with severe and multiple handicaps.

The transdisciplinary team approach and integrated therapy can not be used to justify a reduction of related services staff. When implemented correctly, this approach takes more time (initially) than isolated methods. The final section in this document provides information on administrative issues in implementing transdisciplinary services and suggested staff development activities.

QUALITY PROGRAM INDICATORS FOR TRANSDISCIPLINARY SERVICES AND INTEGRATED THERAPY

This section of the document describes quality program indicators for transdisciplinary services and integrated therapy that reflect "best practices" in this area and is used as a guide in planning and implementing this approach. These best practices are based on the works of Campbell (1987), Lyon and Lyon (1980), McCormick and Goldman (1979), Orelove and Sobsey (1987), and Rainforth and York (1987). A more detailed description of these indicators is contained in *Quality Program Indicators for Students with Moderate and Severe Handicaps* (Kleinert, Smith & Hudson, 1990).

BLOCK SCHEDULING: Is block scheduling used in scheduling related services staff to work with students?

Related services personnel cannot provide adequate input, make relevant recommendations, train and consult with other team members, design adaptations, or determine the efficacy of intervention methods unless adequate time is available to observe and work with the student, teaching staff, and other team members in the context of daily activities in natural settings. When therapists schedule their time with individual students in short sessions (e.g. 30

minutes 2 times weekly) this does not allow adequate time for the therapist to work with the student in actual activities or consult with the teacher or other team members.

Block scheduling is a strategy to provide larger "chunks" of time for planning and consultation with other team members. Therapists may collapse their short sessions into one longer session. For example, instead of seeing a student for 30 minutes two times a week, these are block scheduled into one weekly session of 60 minutes. Therapists can further use block scheduling to block their time by classroom and/or school. For example, a therapist may be working with 6 students with severe and multiple handicaps at one school and seeing each of the students twice a week for 30 minutes (6 students x 2 times per week x 30 minute sessions = 6 hours). A more efficient and integrated way to deliver these services is to block the students' sessions and spend an entire 6 hour day one day a week (or two half days) with them. This would allow time for working with the students individually and in small group activities both at school and in community-based instruction. Consult Rainforth and York (1987) for additional information on block scheduling and an example of how therapists may incorporate their instruction into community-based activities.

Also, scheduling is planned in conjunction with other team members and be flexible enough to allow selected team members to work together on individual student's programs when needed. For example, if a student who has severe cerebral palsy needs an augmentative communication system, several team members will need to focus on this issue. The physical and/or occupational therapist may need to determine how the student will be positioned to access a communication board or device (e.g. pointing, single switch using hand or head movement). These decisions are made through collaboration between the speech therapist, who is primarily responsible for developing the system, and the teacher and parents, who provide information on the relevant contexts (activities and settings) and the vocabulary (e.g. words, symbols, pictures, objects) needed to communicate in these contexts. Related services are scheduled to be flexible enough to support these type of collaborative efforts.

Some districts schedule team meetings each grading period for every class in which it is needed. This is the optimal arrangement. Other districts schedule their therapists to work together each month or grading period, then rotate the team across the classes to work on individual student issues working with a different class each grading period. This schedule allows for each class to have the team available to them, but on an infrequent basis. This time is used for team assessments, problem solving (as in the example above), or to review and revise students' programs.

ASSESSMENTS: Are assessments for programming purposes conducted in the context of daily activities and routines in natural environments?

Therapists conduct two types of assessments: diagnostic and programming. Diagnostic assessments provide basic information on the student's current physical status and performance of basic skills within developmental domains (e.g. motor, communication). These assessments are typically performed in isolation. In the past, therapists' assessment efforts have been solely diagnostic in nature. However, therapists need to be involved in assessments for programming purposes which focus on the assessment and development of skills within the context of functional age-appropriate and integrated activities. This section focuses on the therapist's role in assessments for programming purposes to determine instructional needs, methods, and adaptations.

There are several ways to conduct assessments in context that facilitate input from all team members. The following examples describe two recommended approaches: a) each team member is designated specific assessments to conduct in the context of high priority activities (Rainforth & York, 1987), and b) the teacher conducts all assessments, shares the results with team members, and obtains their input about the use of special techniques and adaptations when needed.

In the first approach, an **ecological inventory or local catalog approach** is used to target age-appropriate activities (containing skill clusters) for instruction (Ford, Schnorr, Meyer, Davern, Black, & Dempsey, 1989; Kleinert & Hudson, 1989; Wilcox & Bellamy, 1987). Each activity is broken into steps (task analysis or "script") and one or two team members with the needed expertise/experience in the target activity are designated to conduct the assessment in the natural environment. The assessor observes the student performing the steps and generates possible adaptations or interventions, writes the instructional program (how to teach the steps in the activity), and monitors the student's progress on the program (Rainforth & York, 1987). For example, the physical therapist is designated to assess toileting for a particular student who uses a wheelchair since weight bearing, transfers, and dressing/undressing are primary concerns for this student during toileting. The occupational therapist is designated to assess self-feeding skills to determine the student's intervention needs in positioning, use of adapted utensils, or physical assistance (guidance). The speech therapist is designated to assess how well a particular student can order in a fast food restaurant to determine the student's communication needs related to this activity. The (adapted) physical

education teacher is designated to conduct assessments related to targeted recreation/leisure activities for particular students. Using this model, the teacher conducts some, but not all assessments in activities targeted for instruction.

The second approach uses the ecological inventory or local catalog approach as described in the paragraph above. The only difference is that the teacher conducts assessments of all targeted activities and notes problem areas and/or generates possible ideas about adaptations or interventions needed. The teacher also notes which team member(s) should be consulted regarding each activity assessed. The teacher then shares these results and concerns with other team members either as a group during regularly scheduled team meetings or with each individual team member during their block scheduled time. The teacher writes the instructional programs (based on the input of team members) and monitors student progress on programs in conjunction with the team member(s) that provided input on each program. When this approach is used, the teacher must have the necessary training and experience to identify problems within activities in motor, communication, and sensory skills. In other words, the teacher does not have to know the "answers" (i.e. interventions/ adaptations) but, the teacher knows the "questions" (i.e. be able to identify students' needs or problem areas for consultation and input from other team members). Caution should be used when using this method of assessment. To be successful, the teacher must be highly trained and experienced in working with students with motor, sensory, and communication needs. Additionally, team meetings must be scheduled to provide time for input from needed disciplines.

In both these methods, assessments are planned by the team. Both methods require additional consultation time with the teacher and direct contact with the student in a problem solving and consultative role to train the instructor to use special intervention techniques and monitor their implementation.

Issue: "That sounds good, but my district contracts with a hospital/clinic and they won't provide services in the school."

First, try to renegotiate this with the hospital or clinic by discussing with them the need for services in the school and community-based instruction (natural environments) and share this document with them. If you cannot change the situation, work to improve it. Designate the teacher or other team member(s) to accompany the student to visit the hospital-based therapist. This designee should act as a liaison for the team. The results of assessments conducted by the teacher (as described in the second approach above) are shared with the therapist and the teacher obtains the therapist's input on the students' needs in targeted instructional activities. If the teacher cannot act as a liaison, another representative for the school can accompany the student, and obtain information and assistance for the teacher and/or other team members. Bring videotaped segments of the student's performance to show areas of concern and ask the hospital-based therapist to review these and recommend adaptations and/or instructional strategies as the focus of the therapy session. Also, time can be spent during the session for the therapist to train the teacher (liaison) to implement the intervention. Just remember that a therapist employed by a hospital or clinic typically has a "medical model" orientation. If therapists recommend isolated interventions, ask how strategies can be incorporated during instruction on activities seen on videotape. Time must be spent to educate the therapist in a transdisciplinary orientation and allow a cooperative relationship to develop.

EMBEDDED RELATED SERVICES OBJECTIVES: Are related services objectives "embedded" or "infused" into activity-based educational objectives?

Objectives targeted for instruction by related services personnel are embedded or infused into functional activity-based objectives and taught in context. These are basic skills in the areas of communication, motor, and sensory that are required to perform skill clusters that are part of an activity or task. For example, developing head control is a critical basic skill. However, it should not be targeted for instruction in and of itself in isolation of a meaningful context. Head control may be taught within a variety of activities such as holding head up to activate a switch connected to a tape recorder to listen to music or a favorite story. Postural control (positioning) is another example of a critical basic skill that is required in virtually every activity throughout the day. Hence, we recognize the need for embedding related services objectives or instruction on basic skills.

Embedding basic skills can be accomplished in one of two ways: a) the local catalog approach that focuses on activity-based objectives as previously described, or b) an embedded skills approach using activity-oriented programming as described in *Kentucky Programs for Students with Severe Handicaps Including Deaf-Blindness* (1989) (a support document available from the Kentucky Department of Education, Office of Education for Exceptional Children) or in a document developed by Hudson and Leatherby (1990). In both approaches, basic skills or skill clusters are embedded into the context of functional age-appropriate and integrated activities that are selected in conjunction with the students' parent(s).

It is recommended that teachers interview parents or have them complete a checklist or questionnaire to select functional age-appropriate activities from a "local catalog" for instruction (Hudson, 1990). These become the overall educational objectives in which related services and basic skill instruction are embedded. Thus, the IEP becomes one integral document, not separate IEP's from each discipline that are then collated and stapled together.

Team meetings should be held to discuss the results of assessments conducted for each student. Appendix A contains a description of a process that may be used by the team to plan assessments and instructional programs as a team.

INTEGRATED SERVICE DELIVERY: Are related services provided in both consultative and direct service formats as needed, and are they delivered in natural settings?

As previously discussed in the section on integrated therapy, the transdisciplinary model incorporates a consultative approach and includes role release to allow others to implement some interventions (indirect approach). However, it does not eliminate the need for direct services (face-to-face, hands on intervention, whether isolated or integrated; may be part of team/consultative process such as problem solving or demonstrating strategies). A combination of direct and indirect services is optimal. The student's needs and IEP objectives dictate the type and amount of services provided. Again, this decision is made by the SBARC. Regardless of the type of services needed, these are provided in the context of functional age-appropriate and integrated activities or routines in natural environments (integrated therapy). All related services, whether direct or indirect including consultation, should be documented and retained as part of each student's cumulative file. A form that may be used for this purpose is contained in Appendix A.

Issue: "That sounds good, but my district contracts with a hospital/clinic and they won't provide services in the school."
(See the previous section on assessment for ideas on this issue.)

INTEGRATED ADAPTATIONS: Are adaptations integrated into daily activities and routines across school, home, and community environments?

An important test to determine if transdisciplinary services and integrated therapy exist in a given classroom or program is to look for **adaptations and special therapeutic techniques being used throughout the day across activities and environments**. Adaptations may include positioning techniques and equipment, handling and physical guidance techniques, oral motor/feeding techniques, accessibility or building and environmental adaptations, and assistive devices in the areas of augmentative communication, self-care, microcomputer access, and environmental control. Of course, all students will not require adaptations in all these areas. However, many students will require these in one or more areas and students with severe physical and multiple handicaps will probably require adaptations in many of the areas listed above. A description of these is contained in Appendix A.

CONSULTATION, TRAINING, AND ROLE RELEASE: Are consultation, training and role release systematic and documented?

Is consultation provided to parents? Is consultation with other team members focused on the student's educational needs? Is it well planned and documented? The focus of consultation with teachers, parents, and others is on functional outcomes. (What is needed to increase independence, participation, and skill development at home, at school, and in the community?) In addition, consultation provides opportunities to monitor instructional programs developed cooperatively with other team members and for problem solving among disciplines.

Each **consultation**, which can include face-to-face work with students in addition to problem solving with other team members while working with individual students, and training others is planned with pertinent team members in advance so that all persons involved know what activities will occur and in what settings or contexts. This is not a time to just "hand the student over" to a specialist. Teachers are active participants in the consultation process and work in conjunction with the specialist with specific students. In the long run, students will benefit from instructional programs of higher quality. An example

of a form that can be used to document the provision of consultation services is contained in Appendix A. After the consultation form is completed, it is kept on file by the teacher. Some teachers use a three-ring binder for this with divider tabs for each student to keep a record of consultations.

Role release refers to systematic teaching and learning across traditional discipline lines. Tasks traditionally performed by one discipline can be delegated (under supervision) to other team members only if appropriate training has been provided. When it has been determined that the newly trained team member can consistently perform the task correctly, then that task or role is released to that person by the discipline or person who conducted the training.

The levels of role release include sharing (Lyon & Lyon, 1980):

1. general information - communicating knowledge about basic procedures or practices to other team members to increase understanding or awareness (e.g. teacher sharing curriculum or schedule; team members making others aware of related workshops, resources, publications, etc.),

2. specific informational skills - teaching others to make specific judgements or decisions (e.g. identify occurrence of a seizure, choking, etc.; determine if student is positioned properly in wheelchair or other equipment; teacher instructing others to look at a graph and make a data-based decision about student progress on instructional program), and

3. performance competencies - training others to perform specific physical actions or procedures to implement programs with specific students (e.g. teaching positioning and use of equipment, lifting and transfer techniques, use of student's communication device, handling techniques, oral motor/feeding techniques, tube feeding, suctioning, catheterization, behavior management procedures, etc.).

The role release of performance competencies are often the most controversial. Team members and administrators are usually concerned with liability. We must understand that we (as educators and team members) are all liable for everything we do. Liability is not the issue, negligence is the issue. Negligence is defined as an unreasonable action that a prudent person would have foreseen as dangerous and acted differently. Here is where the **systematic training and documentation** is vital. If individuals are trained by a qualified person, the training is documented, the procedure is monitored, and emergency

procedures are established when needed; then negligence has not occurred if something unexpected goes wrong. Negligence is more likely to occur when team members' training needs are ignored or denied.

A qualified person refers to the person who by profession and/or professional training is competent to perform the task and teach others. The task to be taught is and should be broken into steps (task analysis). The trainer provides instruction by a) demonstrating or modelling the steps, b) observing the team member perform the steps of the new task, c) providing corrections and feedback to the team member on their performance of each step, d) leaving a written description of the procedure (and when appropriate pictures or diagrams that are helpful), and e) documenting this during the training sessions (see Appendix A for training form). Once the newly trained member can perform all steps correctly, the role is then released and the "trainer" monitors the team member's performance.

Many procedures that need to be taught to others require individualizing for specific students. Parents can provide valuable input during the training process in this respect (e.g. parent providing information on the specific position that works best for feeding or tube feeding). However, the parent providing all the training, particularly for medically related procedures, is not considered to be using "qualified" personnel. For additional information on training to administer medically related procedures consult *Children with Special Health Care Needs* (Smith, in-press).

Consultation and training is provided to parents to insure consistency between home and school. An integrated therapy approach is also used in the home. The same suggestions described in the section on assessment and program planning can be used to develop home programs. Also, suggestions regarding role release and information exchange among team members apply to working with parents. It is important to recall that parents are equal members of the team, who may offer or receive training. At the same time, they are members of a family system, where training and program implementation may be low priorities relative to other family needs.

INFORMATION EXCHANGE AND TEAM MEETINGS: Is there an ongoing communication system for information exchange? Are team meetings held on a regular basis?

A system is implemented to allow for **ongoing information exchange** among team members, including parents, even when face-to-face meetings are not possible. Appendix A contains an example of an team communication form that can be used for this purpose. The team communication form allows one

team member to ask for input from other team members if a change is needed in a student's instructional program. A bulletin board in the classroom can be used to make "mail boxes" for each team member so that questions and concerns can be addressed by team members with the needed expertise when they visit the classroom.

Team meetings are scheduled on a regular basis throughout the school year. Some districts schedule team meetings once a month or each grading period for each class in which it is needed. This time can be used to review and revise students' instructional programs, to conduct team assessments, and for team problem solving (refer to section on block scheduling). This is the optimal arrangement. Other districts schedule their therapists at the same time once each month, then rotate the team across the classes for team meetings and to work on individual student issues. This schedule may allows for each class to have the team available to them once or twice during the year.

The agenda for all team meetings is planned in advance. Minutes from these meetings and/or progress review notes are recorded, maintained as part of the student's file, and shared with parents.

IMPLEMENTING TRANSDISCIPLINARY SERVICES AND INTEGRATED THERAPY

Implementing transdisciplinary services and integrated therapy is an evolutionary process and takes time. Most administrators and team members will have limited knowledge of and experience with this approach. There are three main barriers to implementing a transdisciplinary model that administrators and all team members should acknowledge (Orelove & Sobsey, 1987), which are discussed below.

Philosophical and Professional Barriers: barriers that relate to differences in professional orientation and training (e.g. medical model vs. educational model), use of too much "professional jargon" which impedes communication and understanding across disciplines, disciplines/team members involved in role retention and keeping discipline lines intact.

Interpersonal Barriers: barriers that occur when individual members of the team are threatened by training others or being trained by other team members/disciplines, team members involved in role retention and keeping discipline lines intact.

Administrative Barriers: barriers that are caused by lack of knowledge and/or experience with the approach on the part of administrators and team members, resistance to change, disputes about professional ethics and liability (e.g. role release).

For the most part, these barriers can be overcome by a) providing training and experience in transdisciplinary teaming and integrated therapy, and b) developing procedures for use by all team members across the school district.

To implement transdisciplinary services, **teams are organized for each classroom or school** (team composition will vary from class to class). All team members are provided information and training on transdisciplinary service delivery so all team members understand the approach and are speaking the same language. This document can be used in this initial training process.

Teams (disciplines) collectively develop (in writing) the district's procedures about the role of related services in educating students with severe and multiple handicaps. These written procedures can address the quality indicators discussed in the previous sections: block scheduling; assessments; embedding related services objectives (IEP development); integrated service delivery; integrated adaptations; consultation, training, and role release; and information exchange and team meetings.

Each team member's areas of expertise are documented and shared with other team members. This provides each team member guidance in who to contact about specific consultation needs. This activity also provides a picture of each team's collective areas of expertise (Rainforth, Stauch, Twachtman, & Smith, 1990). In specialized areas where expertise is missing within the team, selected team members can be designated to obtain additional inservice training, and/or additional consultants can be hired or added to the team when student's needs cannot be met within the team.

Implementing transdisciplinary teaming and integrated therapy is a time consuming process in which team members need input and ownership. The implementation strategies discussed above will probably take a school year to develop and to implement (if planning/team meetings are held consistently). The director of special education or his/her appointee takes an active part in the initial year. Administrators and teams may want to collaborate to identify barriers that impede transdisciplinary teaming, and develop "plans of action" to remove barriers to service delivery. Appendix B contains instructions and procedures for this activity and a list of important information to consider when

making decisions about transdisciplinary teaming. If additional training or technical assistance is needed, contact one of the state agencies on the list of training resources in Appendix C.

Other issues specific to occupational and physical therapy services are not a major component of this document. However, it is believed that administrators would appreciate some direction in this area. Appendix D contains persons to contact to locate qualified personnel, and a list of readings and resources (including sample job descriptions and contracts) to assist administrators in providing occupational and physical therapy services.

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Appendix A: Transdisciplinary Teaming Forms

Team IEP Planning Form
(description & form)

Related Services Consultation Form

Descriptions of Adaptations

Training Form for Special Techniques
(blank form)

Team Communication Form
(blank form & examples)

PROCESS FOR TEAM PLANNING FOR THE DEVELOPMENT OF IEP GOALS*

Purpose: The process of team IEP planning provides a time when the teacher, specialists (e.g. OT, PT, speech), parents, and others meet together to share information and to review progress and develop a plan to gather additional assessment information to make decisions regarding new IEP goals and objectives. It includes a review of the current IEP and making tentative decisions about current IEP objectives based on progress (as noted by data collection).

This team planning meeting is not the formal IEP meeting or SBARC. It is in preparation for that meeting, so all team members have used their expertise efficiently and effectively to make informed recommendations and decisions at the formal IEP meeting.

The teacher is responsible for chairing the meeting and keeping minutes or notes. Parents and significant others (siblings, peers, friends) are also invited to attend this planning meeting. All specialists working with the student (e.g. PT, OT, speech) are expected to attend. If a nurse, psychologist, principal, or others are needed at the meeting, they are also contacted and asked to attend. When students are moving to another school, the receiving teacher attends this planning meeting and the formal IEP meeting. This may occur if a student is moving from a special school to a regular school or as students transition from one age-appropriate setting to another (preschool to elementary, elementary to middle school or junior high, middle school or junior high to high school).

Prior to the meeting, each team member receives a copy of the student's current IEP with a summary of all data collected on each objective, and a list of the priority activities as chosen by the student's parents (Hudson, 1990). Related services staff and the teacher have been assessing the status of these objectives during program monitoring throughout the year (at team meetings). Each objective is discussed in detail to determine if it has been attained, what changes are needed when the objective is not completed, and what new objectives (and/or adaptations) are needed for "new" activities selected by the parents. Transition issues that require team planning and input are also discussed at this time.

A Team Planning Form is completed for each student at the planning meeting (see attached form). The form is completed at the meeting, and "outlines" goals and objectives, who will carry them out and where. Plans are also developed

for conducting additional assessments in natural contexts by selected team members to be conducted prior to the formal IEP meeting (see the section on Assessment). Again, this team IEP planning meeting is done prior to and in preparation for the formal IEP meeting (SBARC) so members of the SBARC can make informed decisions and recommendations. Each student's IEP is based on the information on the Team Planning Form. This form should be filed in the student's cumulative folder.

* Note: Adapted from the "Outlining Process" developed by Ft. Wright School, Kenton County Schools, Kentucky.

TEAM PLANNING FORM

STUDENT: _____ DATE: _____

Possible goals/needs:	Person(s) responsible for implementing goal/program:	Deadline for program to be written and by whom:	Is therapy indicated? (type/who)	Integrated Service Delivery		
				in class	other setting*	Consultation & or training needed (specify)

P. D. Smith (1990)
Integrating Related Services into Programs for Students with Severe and Multiple Handicaps
Kentucky Systems Change Project
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*Refers to community-based instuction or integrated activities.

NOTE: Adapted from Outlining Form from
Ft. Wright School
Kenton County Schools, Kentucky

RELATED SERVICES CONSULTATION FORM

Name: _____ Date: _____ Time: _____

Student(s):

Focus/Need:

Interventions: (please circle one and describe) direct consultation training

Comments/Suggestions:

Follow -up Task:	Person(s) Resp.	Timelines

Consultation Plan for Next Visit:

DESCRIPTION OF ADAPTATIONS

1. **Positions (equipment), positioning and postural control:** This refers to the use of positioning and related equipment in the context of functional activities throughout the day. Students are not placed in a piece of positioning equipment to be removed from activities. The positions and positioning equipment are integrated or infused into the activities in which they are appropriate. All students should have at least two different positions that are used during the school day. Positions are selected both to promote improved posture and postural control and to maximize participation in scheduled activities.

2. **Transitions:** mobility and travel. This refers to transitional activities that involve mobility and travel from one activity or setting to another. Students' participation in targeted transitions should be specific and documented on the instructional program. This documentation should also describe any mobility equipment or assistive devices needed. If an objective that relates to mobility is contained on the IEP, it should state the settings and activities in which this will occur.

3. **Transitions:** lifting, carrying and transfers. This refers to transitional activities that involve moving from one position to another. Moving from one position to another may involve lifting and/or carrying the student, or assisting him/her with transfers. Again, students' participation in transitions from one position to another should be specific and documented as described above. This documentation should also describe any assistive devices needed. If an objective for transfers is contained in the IEP, it should state the settings and activities in which this instruction will occur (e.g. toileting).

4. **Handling:** physical guidance and tone and/or sensory normalization. This refers to specific handling techniques that may be required for some students who have motor disabilities (e.g. cerebral palsy). Handling techniques may be needed to physically assist a student to perform a movement such as reaching or grasping. Other students may require special handling techniques to "normalize" muscle tone or sensory input. These should not be viewed as "exercises" or procedures that require removing the student from scheduled activities, but as techniques that are used within functional activities to facilitate optimal motor functioning and increase participation for students.

5. **Oral motor and feeding techniques:** This refers to oral motor and feeding techniques that may be needed to promote optimal oral motor functioning for eating and drinking. They may include techniques to facilitate jaw control, lip closure, chewing, and swallowing. Oral motor techniques may also include specific feeding techniques, food textures, and use of adapted cups or utensils.

6. **Environmental adaptations and accessibility:** This refers to adaptations in the environment needed to access instructional materials or settings. This includes making instructional areas accessible and dealing with concerns related to ramps, curbs, entrances, doorways, restrooms, and others.

7. **Assistive devices: communication:** This refers to the use of assistive devices to facilitate functional communication, both spoken and written. Some students may require augmentative communication devices such as communication boards or booklets, eye-gaze frames, and electronic communication devices. Assistive devices that may be used for written communication include large pencils, pencil holders, felt or magnetic boards, and typewriters and microcomputers which may require pointers (hand-held or head pointers) to access.

8. **Assistive devices: self-care:** This refers to the use of assistive devices in self-care activities. These may include adaptations to promote participation in eating/drinking, toileting, bathing, dressing, and grooming.

9. **Assistive devices: functional activities:** This refers to the use of assistive devices to promote participation in other functional activities in domestic, school/community, recreation/leisure, and vocational domains. These may include teacher made adaptations and the use of adapted switches with automated learning devices. Such adaptations may include using a control unit to operate electrical appliances or battery adapters to operate battery operated toys and recreation/leisure devices. Students who have very poor or no use of their hands will need some of these adaptations.

10. **Assistive devices: microcomputer access:** This refers to the use of assistive devices to access microcomputers for the purposes of instruction, communication, recreation/leisure, and vocational skills. These may include pointers to allow students to use the keyboard, expanded or miniature keyboards, adapted switches, touch windows, and others.

P. D. Smith (1990)
(see Quality Program Indicators for Students with Severe Handicaps, Kleinert, Smith & Hudson, 1990)

TRAINING FORM FOR SPECIAL TECHNIQUES*

Student's Name _____ Program _____

Personnel Trained _____

CODE EACH STEP: + or -

Information/Procedure Steps	Dates (T = training, M = monitor)					NOTES

Comments:

Checklist content developed by:

_____ _____ _____

Trainer Position Date

Checklist content approved by & shared with:

_____ _____

Parent Signature Date

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*NOTE: Adapted from Ventilator-Assisted Care Program
Children's Hospital
New Oreleans, LA.

TEAM COMMUNICATION FORM*

TO:	FROM:
Date: Student: Program/Objective: Instructor:	Date: Student: Program/Objective: Instructor:
Problem/Need:	Comments/Suggestions:

*NOTE: Adapted from East Central Illinois Special Education Cooperative, Urbana, Illinois.

P. D. Smith (1990)
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Students with Severe and Multiple Handicaps
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TEAM COMMUNICATION FORM (EXAMPLE 1)

TO: Sharon (occupational therapist)	FROM: Sharon
Date: 2/15/90 Student: Shawn Program/Objective: communication board Instructor: Pam (speech therapist)	Date: 2/22/90 Student: Shawn Program/Objective: comm. board Instructor: Pam & Kathy (teacher)
Problem/Need: need suggestions on how to position or assist Shawn in touching communication board, should he be touching with his fist or should I require that he point (if point, how do we separate one finger out to use for pointing?)	Comments/Suggestions: construct a wedge/incline by cutting a box on the diagonal (needs incline of approx. 35-40 degrees), attach communication board to this using velcro; position Shawn's arms in a flexed position on the inclined board; attach pencil to his hand pointing downward so he can use as a pointer; should be easier for him to keep his tone down also

P. D. Smith (1990)

TEAM COMMUNICATION FORM (EXAMPLE 2)

TO: John (physical therapist)	FROM: John (physical therapist)
Date: 2/27/90 Student: Tammie Program/Objective: dishwashing Instructor: Susan (teacher)	Date: 3/8/90 Student: Tammie Program/Objective: dishwashing Instructor: Susan
Problem/Need: How do I position Tammie in standing at the sink to wash dishes? She always leans to the left then becomes so sideways that she can't use her hands any more and starts to hold to the sink/counter.	Comments/Suggestions: Attach two hooks to front of counter on sides of sink. Get exercise band (rubber, stretchy) and tie loop in each end. Hook each loop on your hooks. This should be positioned across Tammie's hips while she is standing and she will be able to stand without leaning. Let me know how it goes!

P. D. Smith (1990)

Appendix B: Resources on Implementation Issues

Team Activity: Defining Administrative Barriers
(barrier identification & team worksheet forms)

Important Information to Consider When Planning for
Transdisciplinary Teaming

TEAM ACTIVITY: DEFINING ADMINISTRATIVE BARRIERS

INSTRUCTIONS: Teams meet together with administrators to identify possible barriers to implementing transdisciplinary teaming and integrated therapy (see Barrier Identification form) and develop a "plan of action" to remove each barrier (see Team Worksheet form). The following list of barriers provides a suggested list for discussion purposes. This activity can be used for inservice training and program planning.

Possible Barriers to Successful Integrated Service Delivery:

Personnel: availability, understanding model (e.g. building principal), personalities

Communication: formalized avenues, method of on-going written communication across team members, informal (e.g. regular face-to-face contact with other team member), communication with non-school settings

Competencies of Team Members: orientation (medical vs. educational), pediatric experience/training of therapists, inservice training (e.g. SPLASH, SHIPP, Systems Change Training, others), teacher orientation

Parent Involvement: input, regular communication, demands and their understanding of role of OT/PT in school settings

Facilities/Environment: adequate space, access to cafeteria, playground, etc., elevators/ramps/stairs with rails, bus/other transportation for CBI

Equipment/Funding: wheelchairs and positioning devices, source (public, private insurance, donations), competent and cooperative suppliers

Scheduling/Setting: isolated therapy/therapy rooms only vs. integrated, several short sessions vs. block scheduling, travel time considerations, non-school setting (hospital), team meetings/review of progress/planning

Assessments: what, how, where and when conducted (OT, PT, teacher, speech, others)

IEP Development: planning and implementation, what, how, where and when, documentation of progress in meeting goals

Others: others that you identify

Smith, Henson & Leatherby (1989)

BARRIER IDENTIFICATION

District: _____

Administrator(s)

Teacher(s)

Parent

O.T.

P.T.

Speech therapist

Parent

Identified barriers to successful integrated service delivery

1.

2.

3.

4.

5.

TEAM WORKSHEET

Barrier (#) _____

Plan of action to overcome barrier:

Responsibilities of each team member: Timelines

Administrator(s)

Teacher(s)

Parent(s)

O.T.

P.T.

Speech therapist(s)

Parent(s)

Other(s)

Technical assistance needs to implement plan:

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INFORMATION TO CONSIDER WHEN PLANNING FOR TRANSDISCIPLINARY TEAMING

1. Does the administrator understand the roles/responsibilities of the OT and the PT? Is there understanding about what both do and do not do? Is there understanding about their relationship to each other? Is there understanding of their relationship to the student, the student's parents, teachers, and other team members?

   One possible strategy is to view the OT and PT as pediatric therapists. Let them decide who takes primary responsibility for a given need area based on their individual areas of expertise and experiences. Use the OT and PT as a team within a team, and let them decide primary responsibility areas.

2. Can an administrator make a decision about what therapy model works best? To decide/agree that a "medical model" is inappropriate for an educational setting is helpful to all concerned. Remember - in an educational setting, an educational model is used and related services are tied directly to the student's IEP.

3. Can an administrator decide on a curriculum model? Adopting a curriculum model is vital. This provides the foundation for programming and will dictate the role of related services. If a functional approach, to include community-based instruction is adopted, then a decision to incorporate therapy activities into functional skills helps pave the way for a model of services. These "embedded skills" become the method to deliver therapy type activities. Therapy services and medically related needs are then contexts for instruction and active participation for the student instead of caretaking activities for the teacher with the student playing a passive role.

4. Teaming implies clear role understanding and willingness to make decisions. At the same time, it is very important to be willing to:

   a. share information with nonspecialists,
   b. admit you might not know something, and
   c. be open to new ideas and new ways of doing things.

If no one person is expected to have all the "answers", it helps everyone and takes the pressure off. If everyone adds little pieces to the puzzle, the student benefits greatly.

Team members must be willing to share information and be willing to teach others some of their information. There should be no such thing as not being willing to teach others (nontherapists) some techniques and information, so that others can implement some parts of intervention programs during appropriate times. Eventually and ideally, information is shared and understood well enough to be implemented by all team members in a nonthreatening environment.

5. Contracting with a PT or OT obviously leads to possible headaches and problems. If contracting on a per hour basis is necessary, block scheduling becomes even more critical. For a 2 - 6 hour block of time, therapists are in a situation where (ideally) other therapists can be scheduled to consult during the same block of time.

6. The use of a Physical Therapy Assistant or Occupational Therapy Assistant is a viable alternative to provide additional direct therapy services. These people can be hired to work under the supervision of a Physical or Occupational Therapist to implement therapy programs.

   Liability for therapists is handled in several ways. If a therapist sees a student at school, presumably the school district's liability policy is in effect. It is recommended that any therapist have his/her own liability coverage over and above the therapist's school district coverage.

   Documentation is a critical component for IEP monitoring. Decisions about instruction can only be made based on data collection and ongoing record keeping. It is imperative that those persons responsible for program implementation (the therapist, teacher assistant, another specialist, etc.) record data on the student's progress. Review and monitoring by the therapist is essential throughout the school year at regularly scheduled intervals.

7. Inservice and continuing education are also important foundations for components of transdisciplinary teaming. Oftentimes, OT and PT personnel have different and unique needs for their inservice. Specific skill training and updating of information specific to job responsibility must be taken into consideration. At the same time, efforts must be made to make time available for team members to work together and develop skills necessary to make team decision making work. Some inservice training could revolve around these teaming issues.

8. One of the most difficult aspect of teaming is finding the time to meet and make decisions. Some teams face legitimate problems scheduling team meetings because team members have limited time and inflexible schedules. For these teams, it may be necessary to schedule meetings during class hours. Other teams have enough time to meet, but need to use their time more efficiently. Good planning is also critical to using team meeting time effectively.

   In many situations, having productive meetings is much more valuable than direct instruction with the student. Planning, especially good planning, is critical to good instruction. In the long run, the time in meetings more than makes up for the minimal loss of instruction time.

9. At the time when programs are written for implementation, clear criteria for exit from the program are to be specified.

10. It is helpful, although not critical, that regional agreement on service delivery models be made (e.g. cooperatives). If no agreement can be made, then it would be helpful to share model designs and explain the rationale for each.

Developed by: Bob Estreicher
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c/o Ft. Wright School
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Covington, KY 41011
(606) 331-7742

Appendix C: Additional Readings and Resources

Training Resources

Recommended Readings

Related Professional Organizations

TRAINING RESOURCES

Consultants

Preston Lewis, Associate Director of Categorical Programs
Jeanna Mullins, Consultant (TMH & S/PH)
Kentucky Department of Education
Office of Education for Exceptional Children (OEEC)
8th Floor, Capital Plaza Tower
Frankfort, KY 40601
(502) 564-4970

Harold Kleinert, Director
Pam Smith, Associate Director
Melissa Hudson, Associate Director
Kentucky Systems Change Project for
Students with Severe Handicaps
University of Kentucky
Interdisciplinary Human Development Institute
114 Mineral Industries Building
Lexington, KY 40506-0051
(606) 257-1714

Jennifer Leatherby, Director
Kentucky Deaf-Blind Intervention Project
University of Kentucky
Dept. of Special Education
229 Taylor Education Bldg.
Lexington, KY 40506-0001
(606) 257-4713

Documents of Interest

These documents and training products are available by contacting Preston Lewis at OEEC.

Guidelines for utilization of teacher's aides in speech and language programs

Service delivery models for speech and language programs serving children and youth ages three to twenty-one

Primary level support document & secondary support document: Kentucky program of studies for students with moderate and severe handicaps (non-diploma)

Support document: Kentucky programs for students with severe handicaps including deaf-blindness (all levels) (Prepared by the Kentucky Deaf-Blind Intervention Program.)

These documents were developed by **Kentucky Systems Change Project** (listed on previous page) and are available from that project or from Preston Lewis at OEEC.

Quality Program Indicators for Students with Moderate and Severe Handicaps (1990) (Used for program evaluation and model program development. Transdisciplinary service delivery and integrated therapy is included and five other "best practices": integration, functional curriculum and IEP development, community-based instruction, systematic instruction, vocational/transition.)

Communication Programming for Students with Severe Handicaps (1990) (For speech-language pathologists who work with students with severe and multiple handicaps.)

Model Local Catalogs and Curriculum Process for Students with Moderate and Severe Handicaps (1989) (Activity-based objectives in the four domains: domestic, community/school, vocational, and recreation/leisure.)

Services for Children with Special Health Care Needs (in press)

Considerations in the Implementation of Extended School Year Programs for Students with Disabilities

Statewide Inservice Training Projects

SPLASH: Strategies for Programming Longitudinally for All Severely Handicapped: Inservice training project primarily designed for teachers of students with moderate to severe handicaps; Office of Education for Exceptional Children and University of Kentucky; conducted annually in Fall, 30 participants; funds available for participant expenses, to purchase functional instructional materials, some funds for release time for participants. Contact Preston Lewis at OEEC (502) 564-4970.

SHIPP: Severe Handicaps Integrated Preschool Programming: Inservice training project designed for teachers and other professionals providing services to children 0-5 with severe and multiple handicaps; Office of Education for Exceptional Children, Cabinet for Human Resources and University of Kentucky; conducted in the fall and spring; 40 participants each session. Contact Debbie Schumacher at OEEC (502) 564-4970 or Marge Allen at the Cabinet for Human Resources (CHR) (502) 564-7703.

Assistive Technology & Augmentative Communication Resources

Kentucky Assistive Technology Systems Network (KATS)
c/o Kentucky Dept. for the Blind
427 Versailles Rd.
Frankfort, KY 40601
(502) 564-4754

Bluegrass Technology Center (KATS Eastern Center)
898 Georgetown Pike
Lexington, KY 40511
(606) 255-9951

Disabled Citizens Computer Center (KATS Western Center)
c/o Louisville Free Public Library
4th and York Streets
Louisville, KY 40203
(502) 561-8637

SpeciaLink
36 W. 5th St.
Covington, KY 41011
(606) 491-2464

KATS Research & Development Center
University of Kentucky
Dept. of Special Education
229 Taylor Education Bldg.
Lexington, KY 40506-0001
(606) 257-4763

RELATED PROFESSIONAL ORGANIZATIONS

National/International

The Association for Persons with Severe Handicaps (TASH)
7010 Roosevelt Way NE
Seattle, WA 98115
(206) 523-8446

Publications: Newsletter, Journal of the Association for Persons with Severe Handicaps

Council for Exceptional Children (CEC)
1920 Association Drive
Reston, VA 22091
(703) 620-3660

Publications: Exceptional Children & Teaching Exceptional Children, each division has a newsletter and journal. Divisions addressing issues related to transdisciplinary teaming and integrated therapy include: Division on the Physically Handicapped (DPH), Division on Mental Retardation (DMR), Division for Early Childhood (DEC), Technology & Media Division (TAM), Division for Children with Communication Disorders (DCCD).

American Speech & Hearing Association
10801 Rockville Pike
Rockville, MD 20852
(301) 897-5700

Publications: Newsletter, Journal of Speech & Hearing Research, Journal of Speech & Hearing Disorders

ISSAAC (International Society for Augmentative & Alternative Communication)
P.O. Box 1762
Station R
Toronto, ON Canada M4G 4A3

Publications: Augmentative & Alternative Communication Journal, newsletter Communication Outlook

American Physical Therapy Association
1111 North Fairfax Street
Alexandria, VA 22314
(703) 684-2782
Publications: Physical Therapy and Clinical Management (newsletter); Section on Pediatrics publishes Pediatric Physical Therapy

Neuro-Developmental Treatment Association (NDTA)
P. O. Box 70
Oak Park, IL 60303
(312) 386-2454

Publications: NDTA Newsletter and training materials.

American Occupational Therapy Association
P.O. Box 1725
Rockville, MD 20850-4375
(301) 948-9626

Publications: American Journal of Occupational Therapy

Kentucky

Kentucky Speech & Hearing Association
c/o Mary Gray
3776 Belleau Wood
Lexington, KY 40317
(606) 281-4907 (office) 273-8075 (home)

Kentucky Occupational Therapy Association
c/o Karen Miller, President
10709 Colonial Woods Way
Louisville, KY 42223

Contact Persons: Peggy Steusloff (Chair, Sensory Integration) (606) 254-5701, c/o Cardinal Hill Hospital, 2050 Versailles Rd., Lexington, KY 40504; Karen Miller (Central/Eastern Pediatric Group) (see above); Cindy Combs-Tinnell, 8908 Kaprun Ct., Louisville, KY 40220 (Western Pediatric Group)

Kentucky Physical Therapy Association (permanent address)
3842 Birkenhead Dr.
Lexington, KY 40503
(606) 635-4742 (past president, Brenda Gosney)

Contact Persons: Mary Beth Taylor (Chair, Pediatric Special Interest Group), (606) 254-5701, c/o Cardinal Hill Hospital, 2050 Versailles Rd., Lexington, KY 40504; Sandy Zanni (Chair, Eastern Pediatric Group), (606) 273-4508, 3751 Appian Way, Lexington, KY 40502; Laura Pitvorec (Chair, Western Pediatric Group), 1515 Morton St. #2, Louisville, KY 40204; Donna E. Metager (school PT representative to national organization), (502) 895-4587, 708 Braeview Rd., Louisville, KY 40206

RECOMMENDED READINGS

Abelson, M. A., & Woodman, R. W. (1983). Review of research on team effectiveness: Implications for teams in schools. School Psychology Review, 12(2), 125-136.

Anderlini, L. S. (1983). An inservice program for improving team participation in educational decision-making. School Psychology Review, 12(2), 160 -167.

Bailey, D. B. (1984). A triaxial model of the interdisciplinary team and group process. Exceptional Children, 51(1), 17-25.

Bailey, D. B., Helsel-DeWert, M., Thiele, J. E., & Ware, W. B. (1983). Measuring individual participation on the interdisciplinary team. American Journal on Mental Deficiency, 88(3), 247-254.

Campbell, P. H. (1987). Integrated programming for students with multiple handicaps. In L. Goetz, D. Guess, K. Stemel-Campbell (Eds.), Innovative program design for individuals with dual sensory impairments (pp. 159 -188). Baltimore: Paul H. Brookes.

Campbell, P., McInerney, W., & Cooper, , M. (1984). Therapeutic programming for students with severe handicaps. The American Journal of Occupational Therapy, 38(9), 594-602.

Cole, K. N., Harris, S. R., Eland, S. F., & Mills, P. E. (1989). Comparison of two service delivery models: In-class and out-of-class therapy approaches. Pediatric Physical Therapy, 1(2), 49-54.

Downing, J. (1988). Active versus passive programming: A critique of IEP objectives for students with the most severe disabilities. Journal of the Association for Persons with Severe Handicaps, 13(3), 197-201.

Finnie, N. (1975). Handling the young cerebral palsied child at home. (2nd. Ed.) New York: E.P. Dutton.

Giangreco, M. (1986). Effects of integrated therapy: a pilot study. Journal of the Association for Persons with Severe Handicaps, 11(3), 205-208.

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(2), 49-54.

Johnson, D. W., & Johnson, F. P. (1975). Joining together: Group theory and group skills. Englewood Cliffs, NJ: Prentice-Hall.

Landerholm, E. (1990). The transdisciplinary team approach in infant programs. Teaching Exceptional Children, 22(2), 66-70.

Lowe, J. I., & Herranen, M. (1982). Understanding teamwork: Another look at the concepts. Social Work in Health Care, 7(2), 1-11.

Pfeiffer, S. I. (1982). The superiority of team decision making. Exceptional Children, 49(1), 68-69.

Sears, C. (1981). The transdisciplinary approach: A process of compliance with Public Law 94-142. Journal of the Association for the Severely Handicapped, 6(1), 22-29.

Smith, P., & Kleinert, J. (1989). Communication programming for students with severe and multiple handicaps. Lexington, KY: Kentucky Systems Change Project, University of Kentucky, Interdisciplinary Human Development Institute and the Kentucky Department of Education, Office of Education for Exceptional Children.

The Association for Persons with Severe Handicaps. (1989). Related educational services for individuals with severe disabilities: Report from the Related Services Subcommittee of the TASH Critical Issues Committee. Seattle: Author.

Vance, P. A. (1990). Rationale for the PT in the public school classroom. Physical Therapy Forum, 9(21), 1-3.

Zander, A. (1982). Making groups effective. Washington, DC: Jossey-Bass.

Appendix D: Resources on Providing Occupational and Physical Therapy Services

Locating & Hiring Qualified Personnel

Motor Development & Participation Quality Indicators

Readings & Resources on OT/PT Services

LOCATING & HIRING QUALIFIED PERSONNEL (OT's & PT's)

The following list are persons/organizations to contact to locate qualified occupational and physical therapists for employment:

Occupational Therapy

Kentucky Occupational Therapy Association
c/o Karen Miller, President
10709 Colonial Woods Way
Louisville, KY 42223

Kaye Rydeen or Mary Cowan
Dept. of Occupational Therapy
Eastern Kentucky University
109 Wallace Bldg.
Richmond, KY 40475-3133

Physical Therapy

Kentucky Physical Therapy Association
c/o Brenda Gosney, President
51 Hillview Rd.
Alexandria, KY 41001
(606) 635-4742

LaVonne Jaeger
Dept. of Physical Therapy
University of Kentucky
12 Medical Center Annex 1
Lexington, KY 40506-0791
(606) 233-5837

Nancy Urbscheit
Dept. of Physical Therapy
University of Louisville
Allied Health, Carmichael Bldg.
Louisville, KY 40292

To request copies of sample job descriptions for occupational and physical therapists and their assistants, and information on developing contracts call or write:

Preston Lewis
Office of Education for Exceptional Children
8th Floor, Capital Plaza Tower
Frankfort, KY 40601
(502) 564-4970

Readings & Resources on OT and PT Services

American Occupational Therapy Association (1989). Guidelines in the school system. Rockville, MD: American Occupational Therapy Association.

American Physical Therapy Association (1990). Physical therapy practice in educational environments. Alexandria, VA: American Physical Therapy Association.

Hylton, J., Reed, P., Hall, S., & Cicirello, N. (1987). The role of the physical therapist and occupational therapist in the school setting. Portland: Oregon Health Sciences University, Crippled Children's Division.

A parents guide to obtaining occupational and physical therapy services in the public schools. Minnesota Association for Retarded Citizens (ARC), 3225 Lyndale Avenue South, Minneapolis, MN 55408 (612) 827-5641 or 1-800-582-5256

Jefferson County Public Schools (1988). Handbook for physical and occupational therapists. Louisville, KY: Author.

Kentucky Occupational Therapy Association (1980). Occupational therapy in public schools: Guidelines for services in Kentucky.

Kentucky Physical Therapy Association. (no date). Guidelines for physical therapy in educational settings.

MOTOR DEVELOPMENT AND PARTICIPATION

QUALITY INDICATORS

OVERVIEW

1. Does the student's IEP contain objectives related to motor development and participation?
   a. mobility for transitions
   b. postural control and positioning
   c. participation, e.g. reach, grasp, manipulation, release; eating (oral-motor aspects)
2. Are there objectives that should be added to the IEP?
3. Are motor needs addressed in the context of typical home, school, work, and other community routines?
4. Are there sufficient opportunities
   a. To participate or improve motor skills the student already has?
   b. To develop new skills that would increase participation or vitality?
5. Is attention to motor needs balanced with attention to other areas of need (e.g., social, communication, academic)?
6. Does emphasis on motor skills reflect family priorities?

MOBILITY AND TRANSITIONS

1. How does the student travel within areas of a room? Does the student actively participate (at some level) in at least some transitions?
2. How does the student travel between rooms/buildings? Does the student actively participate? If so, is the rate of travel normalized?
3. Is there balanced emphasis on movement quality and independence?
4. Is mobility equipment sufficient and necessary for functional mobility?

POSITIONS, POSITIONING, AND POSTURAL CONTROL

1. Does the student use at least two different positions?
   a. Do the positions alternate between hips/knees being bent and straight?
   b. If the student has poor head/trunk control, do the positions alternate between upright and reclined?
2. Do positions match the activities in which the student is engaged? (Consider the typical position for the activity, as well as task demands.)
3. Does the student change position at least once an hour? For how long?
4. Does the student actively participate in attaining the position?
5. Does the student actively participate in maintaining the position, to the extent that it does not detract from participation in the activity?
6. Is positioning equipment sufficient and necessary to provide postural alignment and support?

PARTICIPATION

1. How does the student participate in the activity?
2. Does participation encourage the student to use embedded motor skills?
3. Is there balanced emphasis on movement quality and independence?
4. Are adaptations sufficient and necessary for functional participation?
5. If adaptations are provided, is instruction needed/given?

TRADITIONAL OT/PT GOALS

1. Does the student have needs related to the following:
   a. range of motion
   b. strength, endurance
   c. muscle tone, movement quality, coordination
   d. sensory integration, motor planning, perception
2. If so, are these needs addressed within the context of transitions, positions, and participations?

From: Rainforth, B. & York, J. (in preparation). Integrating related services: Strategies for collaborative teams serving students with severe disabilities. Baltimore: Paul H. Brookes Publishing Co.

Kentucky Systems Change Project for Students with Severe Handicaps
Interdisciplinary Human Development Institute
114 Mineral Industries Building
University of Kentucky
Lexington, KY 40506-0051

Additional materials are available from the Kentucky Systems Change Project for Students with Severe Handicaps for the cost of printing and mailing. To order, send a check or purchase order to the address above or call (606) 257-1714.

New ☞ ***Services for Children with Special Health Care Needs: Guidelines for Local School Districts*** (Smith, P. D. & Leatherby, J. L., 1991) - A manual developed for local school districts to provide guidelines on developing and implementing services for students with special or complex health care needs. The manual includes training forms and forms for documenting provision of various health care services. Approximately 120 pages, $8.00.

New ☞ ***Wheelchair Safety Video and Manual.*** (Smith, P. D., 1991) - A 20-minute video designed primarily to teach safe wheelchair use to peers, and is also appropriate to use in training paraprofessionals, teachers, and others who work with children with physical disabilities. The manual provides the trainers with a comprehensive outline of the video content, complete with a sample "liscense" for persons who complete the training. Video and manual set, $10.00.

Quality Program Indicators Manual for Students with Moderate and Severe Handicaps (Kleinert, H., Smith, P. & Hudson, M., 1990) - An assessment instrument used to conduct program evaluations in classrooms serving students with moderate and severe handicaps. The manual is organized around six areas of quality programming, (1) integration, (2) functional curriculum, (3) systematic instruction, (4) community-based instruction, (5) transdisciplinary services and integrated therapy, and (6) vocational instruction and transition plans. 92 pages, $5.00.

Curriculum Process and Model Local Catalogs for Students with Moderate and Severe Handicaps (Hudson, M. & Kleinert, H., 1991) - A comprehensive curriculum based on the local catalog process for selecting age-appropriate activities for students with moderate and severe handicaps. The curriculum has an elementary section and a section appropriate for middle school and high school-aged students. The curriculum also includes chapters describing how to adapt curriculum to meet the needs of students with severe and multiple handicaps and how to select priority activities for inclusion on the IEP. Sample instructional objectives from the four domains are included in the manual and on software compatible with Apple IIe/Apple II gs and IBM (MS DOS) computers to facilitate computer-generated IEPs. 160 page manual and software program set, $12.00.

Communication Manual for Students with Severe and Multiple Handicaps (Smith, P. & Kleinert, J., 1991) - A comprehensive manual written for speech/language pathologists and other professionals who work with students with severe and multiple handicaps that focuses on the development and implementation of communication programs. The manual was developed and used for statewide inservice training for speech/language pathologists in Kentucky. 275 pages, $18.00.

Integrating Related Services into Programs for Students with Severe and Multiple Handicaps (Smith, P., 1990) - A manual developed for administrators, teachers, therapists, and parents that includes administrative and implementation issues and strategies for integrating related services. 60 pages, $4.00.

Make checks payable to the **Interdisciplinary Human Development Institute.**