DOCUMENT RESUME

ED 391 340 EC 304 589

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TITLE Traumatic Brain Injury: A Guidebook for Idaho Educators.
INSTITUTION Western Regional Resource Center, Eugene, OR.
SPONS AGENCY Office of Special Education and Rehabilitative Services (ED), Washington, DC.
PUB DATE Jul 95
CONTRACT H028A30003
NOTE 209p.
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC09 Plus Postage.
DESCRIPTORS Check Lists; Classroom Environment; Consciousness Raising; Definitions; Diagnostic Teaching; Educational Legislation; *Educational Methods; Elementary Secondary Education; Federal Legislation; *Head Injuries; *Intervention; *Neurological Impairments; Peer Acceptance; *Reentry Students; Rehabilitation; Student Characteristics; *Symptoms (Individual Disorders); Transitional Programs
IDENTIFIERS Idaho

ABSTRACT

This guide is an introduction to head injury and to educational resources in the field. An introductory section describes traumatic brain injury (TBI) as a federally recognized disability category and provides its federal and Idaho definitions. The following section introduces the unique characteristics of students with brain injuries. A section on "re-entry" discusses the student's transition from a rehabilitation setting to the home school and the comprehensive planning efforts needed to coordinate this process. A section on interventions describes specific strategies for addressing cognitive and behavioral needs of students with TBI and gives suggestions for creating a physical, social, and psychological environment conducive to optimal learning for these students. The final sections consider ideas to promote awareness and understanding of TBI among students and staff members and describe Internet resources. Appended are reprints that include the following articles or measures: "Planning for Traumatic Brain Injury (TBI): A New Challenge for Special Education" (Ellie Kazuk and Denise Stewart); "General Information about Traumatic Brain Injury" (also in Spanish); "Traumatic Brain Injury: What the Teacher Needs To Know" (B. Pieper, Ed.); "Physical Facilities and Planning Checklist for Schools"; "Checklist for School Reentry"; "Welcome to a New World: A Presentation by the Traumatic Brain Injury Re-Entry Team, Tacoma Public Schools"; "Neuropsychological Assessment Test Battery"; "Traumatic Brain Injury Checklist"; "Related Services for School-Aged Children with Disabilities"; "Health Care Plan"; "Modifying the Elementary Classroom"; "Modifying the Secondary Classroom"; "Serving the Student with TBI"; "Observable Behaviors and Strategies"; "Compensatory Strategies"; and "Developing an Educational Program." (Contains 63 references.) (DB)

TRAUMATIC BRAIN INJURY:

A GUIDEBOOK FOR IDAHO EDUCATORS

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July, 1995

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This document was developed by the Western Regional Resource Center, Eugene, Oregon, pursuant to Cooperative Agreement Number H028-A30003 with the U.S. Department of Education, Office of Special Education and Rehabilitative Services. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Department of Education. Nor does mention of tradenames, commercial products, or organizations imply endorsement by the U.S. Government. [TAA 110DISCAT]

Acknowledgments

We greatly appreciate the efforts of educators in Idaho who reviewed this document for us during its development:

Nolene Weaver, Director, Idaho SEA
Lynette Ferguson, Regular Education Teacher, Wallace School District
Rosanna Robbins, Psychologist, Post Falls School District
James McGill, Special Education Administrator, Melba School District
Leslie Fantelli, Secondary Resource Room Teacher, Idaho Falls School District
Mark Graham, School Psychologist, Shelley Special Education, Joint School District No. 60

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INTRODUCTION

The New Disability Category

Traumatic Brain Injury and autism were added as two new separate disabilities to Public Law 101-476, the Individuals with Disabilities Education Act (IDEA), when President George Bush signed the new law in 1990. The creation of a separate category for students with Traumatic Brain Injury represents a significant step toward increased awareness of the educational needs of these students. Expanding the federal educational mandate to include traumatic brain injury carries the anticipation of more appropriate educational assessment, planning, and services for students with head injury. This new category also presents educators with new challenges in identification, evaluation and providing appropriate programs to meet the mandates of IDEA.

Most states have adopted the federal Traumatic Brain Injury definition (Katsiyannis & Conderman, 1994):

> "Traumatic brain injury" means an acquired injury to the brain caused by an external physical force, resulting in total or partial functional disability or psychosocial impairment, or both, that adversely affects a child's educational performance. The term applies to open or closed head injuries resulting in impairments in one or more areas, such as cognition; language; memory; attention; reasoning; abstract thinking; judgment; problem-solving; sensory, perceptual and motor abilities; psychosocial behavior; physical functions; information processing; and speech. The term does not apply to brain injuries that are congenital or degenerative, or brain injuries induced by birth trauma. §300.7(b)(12)

However, other states, including Idaho, have developed their own. The Idaho definition of Traumatic Brain Injury reads:

> Traumatic brain injury refers to an injury to the brain caused by an external physical force and resulting in a total or partial functioning disability or psychosocial impairment, or both, that adversely affects educational performance. The term applies to open or closed head injuries resulting in impairments in one or more areas, such as cognition, language, memory, attention, reasoning, abstract thinking, judgment, problem-solving, sensory perception and motor abilities, psychosocial behavior, physical functions, information processing, and speech. The term does not apply to congenital or degenerative brain injuries or to brain injuries induced by birth trauma.
>
> (Idaho, 1993, p. III-27)

In the state of Idaho, for a student with Traumatic Brain Injury to be eligible for special education and/or related services, the student must:

a. Have suffered a sudden onset of impairment due to direct brain trauma (skull fracture, contusions, bullet wound, cerebral vascular accident, etc.), suffered a slow change in cognitive abilities due to a change in medical status (tumor, encephalitis, etc.), or suffered an anoxic insult to the brain (cardiac arrest, drowning, etc.) that adversely affects educational performance; and

b. Have documentation as having a traumatic brain injury by a licensed physician, including diagnosis and recommendations; and

c. Be assessed as to cognitive functioning, educational strengths and needs, adaptive behavior skills, speech and language abilities, and motor skills; and

d. Require special facilities, equipment, or methods to make his or her educational program effective; and

e. Be certified by a CST as qualifying for and needing special education services. (Idaho, 1993, p. III-27)

Policy Development

The addition of Traumatic Brain Injury as a new disability category, coupled with a continuing increase in students who have complex health care needs being served by our schools, has challenged state and local education agencies to establish model programs and policies to best serve the needs of these

students. Although students with complex health care needs have the same basic needs of all students, they have additional health care needs that must be remembered when developing policies:

- the need to be provided with a free appropriate educational program
- the need to be provided with an education in the least restrictive environment
- the need to have a health care plan as part of their educational program
- the need to be treated as a child first, then as a student, and not as a patient
- the need to interact with other children with and without similar health care needs (Lehr, Educating, 1990)

State and local policies regarding the needs of students with complex health care needs should treat the individual as a student with special needs rather than as a medical patient (Lehr & McDaid, 1993). The special procedures and/or technological supports required by many of these students can be thought of as alternative methods that facilitate both good health and learning. "The point is that we must begin with a view that the child is not sick, but utilizes health care support, sometimes in the form of technology, to maintain health" (Lehr & McDaid, p. 6).

New Challenges for Schools

Because of advances in medical technology and care, the survival rate of individuals who experience a traumatic brain injury continues to increase. But "survival is not without irony, however," Gerring & Carney (1992) note, as many individuals are left with significant educational, psychosocial, communicative, and/or health needs. Educators thus face challenges they may not have encountered before. A student who was once healthy and self-sufficient may re-enter the public school system as a medically fragile stranger who is unable to walk, talk, or eat without assistance. Another once familiar student may return

to school with numerous special learning needs. Still another student with no obvious physical or cognitive deficit may return to school with a strangely altered personality.

As the incidence of traumatic brain injuries continues to increase with correspondingly higher survival rates, public school systems face a greater responsibility to provide a wider range of educational programs both to students re-entering the school environment and to those who may be temporarily homebound or hospital bound (Begali, 1987; Ylvisaker, 1991). Along with medical interventions, educational interventions are among the most influential factors in the recovery of patients with Traumatic Brain Injury. And schools have the distinction of being "the most appropriate place for children to gain reassurance that achievement is possible again—even while being confronted with enormous new difficulties in thinking, remembering, speaking, reading or concentrating" (Gerring & Carney, 1992, Preface, p. ix).

Because recovery from a traumatic brain injury may take months or even years, the student returns to school while his or her recovery is still ongoing. Therefore, the program and support provided by the school greatly influence how well the student recovers. Educational programs can offer features that contribute to recovery such as "a regular schedule, commitment to training, and systematic building on previous skills" (Mira & Tyler, 1991). The availability of trained specialists in schools to provide motor, language, and educational therapies can also enhance recovery. "School work is a central activity for children, and the routine, structure, and demand for mental activity made upon students is a critical component of recovery. Support is essential so that there may be success at some level . . . . Allowances need to be tempered with expectations and demands in order to maintain a balance between expecting too much and not expecting enough" (Rosen & Gerring, 1986).

It is critical that schools assist students with Traumatic Brain Injury by: 1) "evaluating and determining whether they need regular or special classroom

instruction, 2) helping them attain the greatest possible degree of independence, 3) facilitating the establishment of positive social relationships, and 4) monitoring progress and changes in the student's needs over time and the effectiveness of the IEP" (Arizona, 1993).

Planning for students with Traumatic Brain Injury, write Kazuk & Stewart (1993), "may be no different than planning for all students as the world becomes more complex in general and teachers move from being information givers to facilitators and managers of resources which meet individual needs" (p. 5). These authors further state: "When a commitment is made to meet the individual needs of each student and to draw on every available resource from a variety of disciplines to meet those needs, then planning for TBI will not be a question of setting up unique procedures for a unique category of special education, but the model for meeting the unique educational needs of all students, regardless of disability" (p. 5). This article has been reprinted on pages 67 - 70 of Appendix A.

Scope of This Document

This document is intended as both an introduction for educators and a guide to educational resources published in this field. It is our hope that the information included in this document will increase awareness and aid educators as they prepare to serve students with Traumatic Brain Injury.

The following section, "The Student With Traumatic Brain Injury," introduces the unique characteristics of students with brain injuries that educators must be sensitive to when planning and implementing an appropriate educational program. The "Re-entry" section of this document discusses the student's transition from a rehabilitation setting to the home school and the comprehensive planning efforts that must take place to coordinate this process. Evaluation, development of an Individualized Education Plan and Health Care Plan, and placement decisions are all part of insuring that the recovering student

makes a smooth re-entry back into school. "Interventions" describes specific strategies for addressing cognitive and behavioral needs of students with Traumatic Brain Injury and gives suggestions for educators to create a physical, social, and psychological environment that is most conducive to optimal learning for students with Traumatic Brain Injury. Finally, the "Education and Awareness" section considers ideas to promote awareness and understanding of Traumatic Brain Injury among students and staff members, including prevention curricula.

Supplemental information for each of these sections has been appended at the end of the document.

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THE STUDENT WITH TRAUMATIC BRAIN INJURY

Traumatic Brain Injury is the leading killer and cause of disability in children and young adults, according to the National Head Injury Foundation. Every 15 seconds someone in the United States sustains a head injury; every five minutes, one of these people dies and another becomes permanently disabled. A minimum of one of every 550 school-aged children each year will experience a traumatic brain injury that will result in a long-term disability (Savage & Wolcott, 1994, p. 9).

Head injury accidents vary in nature with different age groups. The major hazards for each population are listed in Table 1 below. Twice as many boys as girls experience traumatic brain injuries, and the greatest number of injuries occur in middle to late adolescence (Savage & Wolcott, 1994, p. 9). General characteristics of head injuries sustained during different age periods are described in Table 2 on page 8 (Mira, Tucker & Tyler, 1992; Oregon, 1991, p. 7).

TABLE 1. Major Hazards for Head Injury to Different Age Groups

INFANTS	TODDLERS & PRESCHOOLERS	SCHOOL-AGED CHILDREN	ADOLESCENTS & YOUNG ADULTS
• accidental dropping • intentional abuse	• falling • motor vehicle accidents, especially if not properly restrained by seat belts	• recreational and sports activities • automobile-bicycle accidents	• motor vehicle accidents • assault • recreational and sports activities

Table 2. General Characteristics of Head Injuries as Sustained During Different Age Periods

Preschool

Children who are injured during the preschool years, even those with severe injuries, may appear to recover fully after the injury. They recover motor and speech skills, and often teachers and parents expect that they will develop and function normally in subsequent years. However, these children often develop academic problems when higher order skills and functions are needed. An IQ may be normal, but the child still has significant academic difficulties.

Early Elementary School

Early elementary school-age children have developing brains, and injuries producing a coma of 24 hours or more are likely to produce persistent intellectual difficulties.

While they respond well to school resumption, these children are likely to have difficulty as they progress through the grades. They are able to store and recall facts fairly well, but obstacles arise as they encounter demands for high level cognitive functioning. Even intelligence test scores may decline.

Early Adolescence

Head injury in early adolescence presents special problems for children and schools. Although a head injury at this age may not have such profound effects on intelligence as it does in younger children, the behavioral and emotional effects may be greater. At this age, students are very concerned about physical appearance and social skills. Head injury interferes with the developing sense of self. Loss of confidence and feelings of depression may lead to isolation from peers. Issues related to sexual development and impact of the injury on future psychosocial functions become important. Psychological counseling is generally needed for children in the older elementary and early adolescent years. Such counseling may be required for 2 to 3 years to help the child deal with the multiple psychosocial effects of the head injury.

If a child sustaining a TBI had behavioral or emotional impairment prior to the injury it is more likely that subsequent psychosocial adjustment will be significantly impaired.

Adolescence

Sustaining a TBI at adolescence has a significant effect on academic functioning. High school class work requires complex cognitive and reasoning skills that range from difficult to impossible for the student with TBI. Another problem may arise because adolescents are planning their future. The student is looking forward to finishing high school and getting on with the next step of life, which may mean higher education or a job. The student has been anticipating leaving high school and gaining independence from family. It is difficult for the student to accept the need to take time from school to recover from the head injury, or to delay graduation because of a reduced course load or a shortened day. When there are sufficient residual deficits to indicate special services within the school, it is better that the student delay high school graduation to use school services that would not be available after graduation. This, however, can be a very difficult step for a high school student to consider.

When students with Traumatic Brain Injury are compared to students whose disabilities are caused by congenital complications, clear differences are apparent, as explained by Savage and Wolcott (1994):

> The primary difference is the sudden onset of the injury, which often disrupts nearly all aspects of the student's and his or her family's life. Although much of the student's life experience, academic achievement, and personality often survive such an injury, this sudden intrusion into the individual's life leaves the student significantly altered, possibly for the long term. In many cases, the student is aware of these changes and some of their implications. The surviving skills and abilities are, in a sense, both a blessing and a curse. They serve as the basis for rebuilding the student's life. At the same time, the sense of "who I used to be" serves as a constant reminder of the loss that has occurred. In contrast, the student (and parents) who have "grown up" with impairments that occurred at or before birth have experienced the limitations of those *impairments* gradually at each developmental milestone (p. 9).

Other unique characteristics of Traumatic Brain Injury include the following:

1) The severity of the injury is not necessarily equal to the severity of the disability. What appears to be a minor injury involving a very small part of the brain can result in a severe disability.
2) A wide range of disabilities can result from a traumatic brain injury. These can range from mild to severe and affect cognitive, social, and/or physical functioning. Common deficit areas for students who have sustained brain injuries include the following:

Cognitive	Social and Behavioral	Neuromotor-Physical
• Communication and language • Memory, especially for learning new information • Perception • Attention and concentration • Judgment, planning, and decision making • Ability to adjust to change (flexibility)	• Self-esteem • Self-control • Awareness of self and others • Interest and social involvement • Sexuality • Appearance and grooming • Family relationships • Age-appropriate behavior	• Vision and hearing • Speed and coordination of movement • Stamina and endurance • Balance, strength, and equilibrium • Motor function • Speech • Eye-hand coordination • Spatial orientation

3) Post-injury recovery is dynamic and unpredictable. Whereas many individuals experience rapid recovery during the first few months until they are back to preinjury status, for others primary tissue damage persists and continues to affect future functioning. Since recovery from a traumatic brain injury may never be complete, recovery should be thought of "as a continuum rather than an endpoint" (Mira, Tucker, & Tyler, 1992, p. 17; Savage & Wolcott, 1994, p. 9 - 10).

Other characteristics of students with Traumatic Brain Injuries that are unique to this population compared to students with other disabilities include:

- ✓ a previous successful experience in academic and social settings;
- ✓ a self-concept of being normal prior to the injury;
- ✓ variability and fluctuation in the recovery process resulting in unpredictable and unexpected spurts of progress;
- ✓ more extreme problems with generalizing, integrating, or structuring information;
- ✓ poor judgment and loss of emotional control, which makes the student appear to be emotionally disturbed at times;
- ✓ cognitive deficits that are present with other disabilities but are uneven in terms of the extent of damage and rate of recovery;
- ✓ combinations of conditions resulting from the injury that are unique and do not fall into usual categories of disabilities;
- ✓ inappropriate behaviors that may be more exaggerated (more impulsive, more distractible, more emotional, and more difficulty with memory, information processing, organization, and flexibility);
- ✓ learning styles that require a variety of compensatory and adaptive strategies;
- ✓ more extreme discrepancies in ability levels; some high level skills may be intact, making it difficult to understand why the student will have problems performing lower level tasks;
- ✓ difficulty becoming independent thinkers;
- ✓ more severe problems with cause/effect relationships and problem solving;
- ✓ reliance on pre-injury learning strategies that are no longer effective;
- ✓ increased vulnerability to head injuries, particularly during the first year following the initial injury;
- ✓ a previously learned base of information which assists rapid relearning.

(DePompei & Blosser, 1987; Mira, Tucker, &Tyler, 1992; Ylvisaker, 1985)

Additional problems that may be experienced by students with Traumatic Brain Injury are outlined in the NICHCY Fact Sheet reproduced on pages 75 -78 of Appendix B.

This wide range of configurations of cognitive, social, behavioral, neuromotor, and physical problems that students with Traumatic Brain Injury may experience requires a highly individualized education program for each student. However, while each brain injury creates a different profile, there are several significant characteristics generally associated with brain injuries which should be considered when developing educational programming for recovering students (Colorado, 1991). These include:

- Brain injuries almost always result in **slow** processing—students will need more time to accomplish everything.

- The injury will probably affect **memory and organizational abilities.** Students may have difficulty with short and/or long-term memory and memory may be intact at one time but gone at another. In addition, memory for newly learned material may be more affected than memory for previously learned material or for recent events. Students will need compensatory strategies to help them accommodate successfully.

- Problems caused by a brain injury may be **hidden** to casual observers if the student looks "normal." Therefore, it may be difficult for others in the student's environment to understand the need for accommodations.

- The effects of a traumatic brain injury will result in **rapid, erratic changes in behavior**. For instance, a student may have appropriate classroom behavior one day and inappropriate behavior (which may be completely beyond his or her control) the next day.

- Effects of a brain injury are **long lasting**. Although progress is to be expected, especially during the first five years, the effects of brain

damage do not go away completely, and it is important to provide continued support, education and training in compensatory strategies.

- The student's problems are acquired, not developmental. Therefore, students with TBI will remember how things were before their accident. This causes feelings of **frustration, sadness, depression, and anger**. Ironically, often a brain-injured student may lack the self-awareness to see the need for compensatory strategies.

(Colorado, 1991, pp. 4 - 5)

Identification

For students who have sustained a severe head injury, the diagnosis is usually clear. If the recommended procedure for re-entering these students is followed, they will make a smooth transition from a rehabilitative setting to the school setting with the guidance of a team of professional representatives from both disciplines. Teachers will be aware of these students' individual needs and will be prepared to provide an appropriate educational program and classroom environment.

But for students who have sustained mild or moderate injuries, identification may be more difficult. These students may return to school with or without receiving medical attention and without notification to the school of the injury. Classroom teachers may be the first to recognize changes in these students' learning and behavior patterns (Utah, 1992). "Even a minor injury may result in both short and long-term disruption to behavior, learning, and development, so it is critical that professionals be sensitive to possible change and/or disruption in order to identify the specific needs of the student" (Utah, 1992, p. 4). Since the human brain controls so much activity, there are numerous ways a head injury may effect a student. Teachers should be aware of possible symptoms or signs (see Teacher Alert on page 81 of Appendix B) and refer students for appropriate assessment if a traumatic brain injury is suspected.

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RE-ENTRY

Rehabilitation

Rehabilitation begins while the individual who has sustained a head injury is still hospitalized. Early intervention by a hospital rehabilitation team increases the patient's chances of maximum recovery medically, physically, cognitively, and psychologically (Oregon, 1991, p. 8). Communication and coordination between local school districts and the hospital rehabilitation team can contribute to recovery and a smooth transition back to the student's home school. This transition is a process that takes place over a period of time rather than a one-time event.

For the student to successfully return to school, staff members from both the education and rehabilitation systems need to share and interpret information about the student (Savage, 1991). A designated school representative who assumes the role of case manager can facilitate this process by coordinating clinic-based with school-based services (Tucker & Colson, 1992).

The hospital environment is a sheltered environment in which services are often brought to the patient. The school environment, by contrast, is less sheltered, more confusing, and is focused on education rather than rehabilitation. For some students, the hospital and education systems may overlap (Tacoma, 1994). Education staff members may visit the student in the hospital while he or she is still an inpatient to provide educational services. After returning to school, the student may still receive medical services as an outpatient.

Re-entry into School

The student's transition from the rehabilitation setting to the home school requires comprehensive planning, structure, and consistency (Oregon, 1991). A multidisciplinary school team, which may include several school staff members as well as the student's parent(s), needs to work closely with the hospital rehabilitation team in planning this transition so that continuity in programming is maintained and the home school becomes a natural extension of the rehabilitation process.

Blosser & DePompei (1994) recommend a variation of the Map Action Planning System (MAPS) to help the multidisciplinary school team plan an appropriate education program for the returning student. The MAPS approach focuses the team's planning discussion on seven key questions:

- ❑ What is the student's history?
- ❑ What are the family's dreams for the student?
- ❑ What are their nightmares?
- ❑ Who is the student? (Characterize him or her.)
- ❑ What are the student's strengths, gifts, and talents?
- ❑ What are his or her needs?
- ❑ What is the ideal school plan for the student? (Include discussions of environments, goals, objectives, and activities.) (p. 420)

Planning a student's re-entry needs to be a four-way process that considers the health care setting, educational setting, rehabilitation setting, and the home setting (Utah, 1992). Rehabilitation and school-based professions should work together to ensure that:

- ⇨ the student's strengths and needs are properly understood;
- ⇨ flexibility and creativity are brought to decisions about classification, placement, service mix, and modifications in service over time;

- the student has academic as well as social support;
- significant people in the student's environment are properly oriented and trained; and
- the student's program is effectively monitored and modified as the student changes and responds to the academic and social challenges that lie ahead. (Ylvisaker, Hartwick, & Stevens, 1991)

To effectively coordinate all the people and procedures involved in a re-entry plan, it is helpful to have a case manager who a) serves as a liaison among school, family, and rehabilitation professionals; b) assures that all are informed about the student's progress and needs; c) performs many tasks that assure a coordinated transition from hospital to school for the student; d) translates medical information for educators; e) provides information about Traumatic Brain Injury to family and educators; and f) coordinates school inservice programs (Mira, Tucker, & Tyler, 1992).

Although their injuries and resulting disabilities may vary considerably, all brain-injured students re-entering the school environment have several common needs. These include **structure** to provide organization and reinforcement to the recovering student; **flexibility** to "strike the best balance" between academic requirements and necessary accommodations; **reduced demands** to match the abilities of the recovering student; **supervision** to correspond appropriately with the degree of independent functioning of the student; and **interventions** that meet the individual needs of the student (Gerring & Carney, 1992).

Mira, Tucker, and Tyler (1992) list eight "critical elements" that should be in place before a student re-enters the school system. These include:

- ☆ Provisions for the student's safety
- ☆ A well-informed staff
- ☆ Staff and facilities to provide a program of the necessary intensity
- ☆ An environment that is sufficiently controlled
- ☆ Provision of special equipment

- ☆ Ability to design and implement a behavioral management program to deal with interfering behavioral deficits
- ☆ Knowledge of TBI resources available
- ☆ Planned provisions for frequent communication among staff (pp. 45 - 46)

Similarly, these authors list six barriers that can impede successful school reintegration, including:

- ➧ Lack of staff training
- ➧ Addition of new staff without training
- ➧ Lack of flexibility in program planning
- ➧ Lack of understanding of the diagnosis of Traumatic Brain Injury
- ➧ Resistance to outside sources of information
- ➧ Unwillingness to begin planning prior to re-entry (pp. 46 - 47)

Staff training should include all school employees who will be involved in educating the returning student (Mira, Tucker, & Tyler, 1992). This training should include the following:

- ✱ General information about the effects of Traumatic Brain Injury
- ✱ The differences between students with Traumatic Brain Injury and other disabilities
- ✱ Specific information about the returning student's unique medical and educational needs (The staff may view videotapes of hospital therapy sessions to examine the student's recovery progress.)
- ✱ Expected long-term problems the student may have
- ✱ Related services the student may need
- ✱ Transition techniques for school re-entry
- ✱ Instructional strategies for students with Traumatic Brain Injury
- ✱ Scheduling modifications that may be needed (p. 49)

The school re-entry procedure includes five major phases: preplanning, planning, implementation, evaluation, and reevaluation and adjustment. The steps involved in each phase are described below.

PHASES OF SCHOOL RE-ENTRY FOR STUDENTS WITH TRAUMATIC BRAIN INJURY

Preplan

Collaborate with medical facility
Prepare school staff with general information on TBI
Obtain medical and educational histories
Observe student in various contexts
Assess student's performance
Determine what modifications are needed
Assess school's capabilities and staff availability
Prepare staff with specific training on TBI
Form networks of support

Plan

Obtain input from parents, teachers, rehabilitation professionals, specialists, and administrators
Discuss expectations and fears
Discuss student's strengths, gifts, talents as well as needs
Brainstorm a plan

Implement

Take action on the plan
Train non-disabled peers
Observe student's behaviors, performance, and responses
Associate these with assessment results
Help teachers self-evaluate their own teaching behaviors, strategies, and procedures
Provide support needed by student with TBI, other students, and staff
Set schedule for evaluating progress

Evaluate

Maintain ongoing evaluation
Obtain data from a variety of sources
Bring in outside resources to assist staff and students where needed
Maintain close contact with family, involving them in all decisions
Adjust plan to accommodate student's changing needs
Reevaluate and adjust

Reprinted from *Traumatic Brain Injury: An Educator's Manual* (Oregon Department of Education, 1991, p. 10)

The multidisciplinary school team needs to consider a number of factors which may affect the student's readjustment to school. These include:

Medical Conditions	Academic Issues
• Fatigue level • Medication information and procedures • Emergency information • Bowel and bladder issues • Diet • Skin care • Other	• Test data, schedule for frequent neuropsychological testing (every 6 months recommended) • Inservice for staff on TBI learning styles • Review of educational program in rehabilitation setting • Flexible placement that can readily be changed • Plan to decrease academic load without sacrificing learning • Other
Social and Emotional Concerns	**Organizational Details**
• Counseling: individual, family, sexual, support groups • Plan to modify behavior — verbal and nonverbal cues • Education of peers and staff • Buddy system • Peer activities planning • Videotape to see themselves as others do • Management of impulsive, unpredictable, aggressive behavior • Other	• Time schedule for transition, team meeting schedule • Individual Education Plan (IEP) • Initial attendance — long-term attendance goals, collapsed schedule • Length of school day • Transportation to and from school • Movement within school building • Placement in area of the classroom • Choice of "check-in" person (coordinator of daily activities) • Safety concerns • Bathroom needs • Lunch, recess, and assembly plans • Compensatory tools, organization systems, student helpers, study guides, calculators, computers, adaptive equipment • Personal aide • Other

(Oregon, 1991, p. 9)

The skills necessary to form and maintain adult social relationships are developed during adolescence (Papalia & Olds, 1981). Friendships are extremely important to adolescents striving for independence and status. Adolescents judge their quality of life and success in terms of social acceptance. Because of the importance of maintaining social relationships during this time in their lives, Abbot & Wilkinson (1993) recommend that peer inservice and ongoing peer support be a major component of school reintegration programs for adolescent students with Traumatic Brain Injury. They write:

> With all survivors, but especially adolescents, the focus of rehabilitation must go beyond its traditional boundaries and address the issues of normal development in social relationships. Effective rehabilitation for adolescents must include programming around social relationships through the continuum of recovery: inpatient programs, outpatient treatment, and return to school. Specific interventions must be designed for each therapy to avoid the potential of social isolation as an adolescent or as an adult. (p. 242)

A Physical Facilities and Planning Checklist for Schools and a Checklist for School Reentry (Mira, Tucker, & Tyler, 1992) have been reprinted on pages 87 - 89; 93 -95 of Appendix C.

A description of the re-entry process used by Tacoma Public Schools in Tacoma, WA—including a description of the re-entry team, flowchart of responsibilities, description of the phases of re-entry, and various re-entry forms—has been reprinted on pages 99 -116 of Appendix C.

Evaluation

Successful reintegration of recovering students into the school environment requires a comprehensive assessment that evaluates a wide range of behaviors and cognitive functions and carefully analyzes students' strengths and weaknesses.

Assessments should use techniques and procedures in compliance with federal and state regulations, be multidisciplinary in nature, incorporate a neuropsychological orientation, and include both formal and informal evaluations. The assessment should be comprehensive enough to screen for possible deficits in all of the functional areas cited by federal regulations: cognition; language; memory; attention; reasoning; abstract thinking; judgment; problem-solving; sensory, perceptual and motor abilities; psychosocial behavior; physical functions; information processing; and speech.

A comprehensive list of "Issues for Consideration in Evaluation of Needs for Students with Traumatic Brain Injury" (Virginia Department of Education, 1992, p. 19), has been reproduced on page 119 of Appendix C. The list includes evaluation issues in 12 areas of functioning.

Students recovering from Traumatic Brain Injury require a customized battery of appropriate assessments that identify specific strengths and weaknesses unique to students with brain injuries. Although experts have identified evaluative domains relevant to students with brain injuries, no assessment instruments have been specifically validated for these students, so results must be interpreted with caution (Carter, 1993).

A list of tests commonly used as a part of the Neuropsychological Assessment Test Battery (Virginia Department of Education, 1992, pp. 91 - 94) has been reproduced on page 123 - 126 of Appendix C.

Informal evaluations, including interviews with family members and observations in natural settings, can help create a more detailed picture of the brain-injured student as an individual (Carter, 1993). The "Traumatic Brain Injury Checklist" (Virginia Department of Education, 1992, pp. 60 - 65) may be used as an informal evaluation instrument to assess a student's current functioning in 13 areas. This checklist has been reprinted on pages 129 - 134 of Appendix C.

A comprehensive assessment made close to the time of re-entry ensures that recommendations for educational placement and programming accurately reflect students' individual needs and potential for recovery. An assessment made before the student re-enters the school environment benefits both the student and teachers. The student returns to a program that is appropriate for his or her individual learning needs. Similarly, teachers are aware of both the student's strengths and potential areas of learning difficulties and can design a program to accommodate those needs (Carter, 1993).

Subsequent assessments conducted on a periodic and ongoing basis further monitor recovery and effectiveness of interventions as the student progresses (Carter, 1993). Should evaluations indicate that the student is eligible for special education, an Individualized Education Program (IEP) and, when appropriate, a health care plan tailored to the individual needs and strengths of the recovering student will be developed. If evaluations show the student is not eligible for special education and related services under the Individuals with Disabilities Education Act (IDEA), the student may qualify as disabled under Section 504 and be entitled to all of the protection and services provided under Section 504.

Individualized Education Plan

The content of the returning student's Individualized Education Plan (IEP) should be developed by the student's multidisciplinary team, including the student's parent(s), and should "reflect the outcome of a flexible, domain-based assessment sensitive to neuropsychologic issues" (Oregon, 1991). The individual program developed for each student should include 1) a continuum of regular education services, 2) evaluation and determination of services required, 3) identification of appropriate education environments and services within the public education setting, 4) maintenance of suitable levels of performance throughout the academic program, 5) development of the greatest possible degree of independence, and 6) establishment and maintenance of positive social

relationships (Utah, 1992). The plan should reflect both the student's strengths and weaknesses.

When developing the student's IEP, the multidisciplinary team should address the following general questions:

1. What are the current levels of the student's cognitive functioning?
2. How has the brain injury affected the student's language, motor skills, self-concept, social development, and academic achievement?
3. Given the student's current needs, what is the most appropriate service delivery system?
4. What are realistic goals for the student?
5. How can the school, family, and community provide sound support for optimum recovery?
6. What residual physical or medical problems are likely to interfere with functioning in the educational setting?
7. How can residual physical problems be addressed?

(Mira, Tucker, & Tyler, 1992, p. 53)

The IEP must, according to federal law, identify the current level of educational performance in all areas affected by the student's disability and must reflect annual goals and short-term objectives. "The goals of the IEP need to be flexible, open-ended, monitored, and reviewed to ensure appropriate reentry and development" (Oregon, 1991, p. 27). The IEP must also state the specific service provisions, the specific special education and related services to be provided, the projected amount of each service instruction and duration of services, the evaluation procedures to measure/monitor progress, the student's participation in regular classroom programs, and the schedule to monitor progress (Oregon, 1991).

Individualized Education Plans "should be built upon an appreciation for the multidimensional nature of TBI and a clear delineation of the specific cognitive, behavioral, physical, psychiatric, and psychological needs of the individual student" (Bureau of Education, 1993, p. 31). In addition to academic

and behavioral needs, students with Traumatic Brain Injury may need to include life skills goals in the IEP to help them relearn how to independently perform activities of daily living such as dressing, eating, and toileting.

When developing the IEP, several other considerations need to be determined and, if necessary, modified to assure a successful re-entry of the student. These include:

- ❑ The physical layout of the school and physical organization of the classroom;
- ❑ Provisions for the student's safety;
- ❑ A well-informed staff and adequate facilities to provide appropriate programming;
- ❑ Provisions for frequent communication among staff members;
- ❑ The ability to design and implement an appropriate behavior management program;
- ❑ The student's schedule, which should consider fatigue and medication issues as well as content and timing of course load;
- ❑ An aide or peer buddy to provide the student with assistance;
- ❑ Adaptive equipment which may aid the student to become more autonomous and successful;
- ❑ Related services identified and integrated into the student's individualized program. (Bureau of Education, 1993; Oregon, 1991)

For secondary students, the IEP should include goals for transition from public education into post-secondary educational opportunities and work experiences. The rehabilitation continuum for secondary students with Traumatic Brain Injury should include vocational assessment, counseling, job training, and career development planning (Bureau of Education, 1993, p. 155).

The recovery path of individuals who have sustained traumatic brain injuries is rarely smooth and continual; rather, it is often erratic and unpredictable. Students with traumatic brain injuries often experience rapid recovery spurts, sudden plateaus, and phases where information once learned

appears to have been forgotten. Recovery is thus a process, not an event. Therefore, IEP reviews may need to take place more often than once a year. "The goal always should be to assist the student with TBI to progressively move toward a less restrictive environment as the student continues to improve" (Oregon, 1991, pp. 27 - 28). The Utah *Guidelines for Serving Students with Traumatic Brain Injuries* (1992) recommends that initial IEPs for returning students be written on a short term basis (4 - 6 weeks) and that the student be re-evaluated frequently during the first year of recovery.

Related services such as medical services, school health services, communication therapy, occupational therapy, physical therapy, and assistive technology devices such as calculators, tape recorders, positioning equipment, augmentative communication devices, and computers may be needed by students who are recovering from traumatic brain injuries and should be specified in the IEP (Oregon, 1991). A discussion of related services published as a special issue of the *NICHCY News Digest* (1991) has been reprinted on pages 137 - 160 of Appendix C.

Virginia's *Guidelines for Educational Services for Students with Traumatic Brain Injury* (1992) recommends the guidelines below when developing Individualized Education Programs for students with Traumatic Brain Injury.

Specific goals and objectives need to be directly related to the student's assessed needs in the IEP. The IEP may include:

1) A statement of the student's ability to:
   - hear, see, and feel;
   - manipulate objects, draw and write appropriately;
   - maintain balance and perform hand-eye coordination activities;
   - repeat information immediately, retain information, sustain concentration, and endure the test session; and
   - efficiently process information of a verbal or nonverbal nature.

(continued...)

2) A statement of the student's ability to:
   - provide appropriate expression based on articulation, syntax, phonology, pragmetaic and semantic language;
   - understand time concepts and sequential temporal information; and
   - understand visual spatial relationships and metrically integrate material.

3) A statement of the student's present level of intellectual and educational performance. This statement includes intrascale and interscale test scatter. Also included is a statement of the student's applied and abstract reasoning skills, learned vs. novel information, and verbal/visual motor output skills vs. performance on tasks minimizing these demands.

4) A recommended practice for the development of short-term goals and instructional objectives is frequent reviews during the first year post-injury (1-, 3-, 6- and 12-month abbreviated re-evaluations), and annual reviews thereafter.

5) Specific special education and related services for all students as needed, to include:
   - specific special education service schedule (i.e., type of delivery model and amount of special education services needed);
   - the position of the person responsible for delivery of services;
   - classroom modifications/accommodations for students with deficit processing or output;
   - date the IEP was developed, initiation date, and duration of services; and
   - statement of the student's (a) participation in Family Life Education curriculum, literacy testing, or standardized testing, and (b) need for special testing accommodation in situations.

6) Timely review of IEP.

7) Appropriate observations and procedures for evaluating short- and long-term goals.

8) Placement based on justification as the least restrictive environment appropriate.

(pp. 26, 28)

A small percentage of brain-injured students remain in a coma-like condition with multiple disabilities. These students need an IEP tailored to their

unique needs. Sensory stimulation is recommended for these students in order to prevent deterioration in information processing abilities. Because their responses to stimulation are usually qualitative instead of quantitative, it is important to monitor reactions of these students carefully and to keep ongoing records of observations in order to identify optimal sensory modalities, preferred times of the day, preferred therapists, and/or favorite activities (Gerring & Carney, 1992). "In designing a program for these students, professionals must consider not only what services to provide, but also how to balance the students' activities to their specific needs in order to enhance optimal response to their environment" (Gerring & Carney, 1992, p. 135).

Health Care Plan

Similar to the Individualized Education Plan, a health care plan specifies the ways in which an individual's health care needs should be met (Lehr & McDaid, 1993). Although the specifics may vary, Palfrey, Haynie, Porter, Bierle, Cooperman, & Lowcock (1992) recommend that each health care plan include the following:

- a brief health history
- a specification of special health care needs
- a statement of the baseline health status
- a description of the medications and special dietary needs
- the transportation requirements of the child's special equipment needs
- a description of possible problems and interventions and emergency plans for both school and transit
- documentation of contact with the local fire department, EMT services, and emergency rooms

In the development of health care plans, particular attention should be paid to emergency procedures relating both to the student's disability as well as possible school emergency situations (Lehr & McDaid, 1993).

If the student requires certain health care procedures, these should be communicated in writing. Additionally, ongoing communication regarding the effectiveness of the plan is critical, as is the observation, recording, and communication regarding the student's health status. Information shared between home and school should be shared on a frequent and systematic basis.

Although professional opinions vary on who among school staff members should be responsible for certain procedures, there is consensus that these individuals "should be competent and that training should be provided to a range of personnel to develop different levels of awareness and skill" (Lehr & McDaid, 1993).

Palfrey, et al. (1992) recommend two types of staff training—general and child-specific. General training for all staff members should be designed to demystify the student's health care needs and to provide sufficient information for all staff members to be prepared to respond to emergencies. Child-specific training should focus on staff members who will actually implement health care responsibilities. Training should be provided by qualified health care professionals.

The Medically Fragile Child in the School Setting (American Federation of Teachers, 1992) includes a section entitled "Guidelines for the Delineation of Roles and Responsibilities for the Safe Delivery of Specialized Health Care in the Educational Setting" that specifies the roles and responsibilities of various personnel involved in the provision of specialized health care, from the perspective of professional practice. The document also outlines several strategies for classroom preparation for the care of a student with complex health care needs, including accessibility, medication, appropriate equipment, classroom furnishings, emergency procedures, and privacy.

Utah Department of Education's *Guidelines for Serving Students with Special Health Care Needs* (1992) includes an appendix of sample forms that can

be used to coordinate the educational programming for students with special health care needs, including a Health Care Plan, Health Care Plan Log, and Health Care Plan Checklist. The Health Care Plan form has been reprinted on page 163 - 164 of Appendix C.

Placement

After the IEP has been developed, the student's placement can be determined. The placement decision may include one or a combination of several options within this continuum:

- A regular classroom program with support services, modifications, and supplemental aids
- A regular classroom program with resource room support for part of the school day
- A self-contained special education program with regular classroom participation for part of the school day
- A totally self-contained special education classroom
- Home or hospital-based tutoring
- Community or state school placement (Oregon, 1991).

As the student returns to the school environment, a gradual reintroduction may use a combination of placements. For instance, the student may be placed in the regular classroom with support for half days, combined with home tutoring several times weekly as an interim step toward full-day participation at school. Many students will need extended school year experiences to maintain continued progress.

The small percentage of individuals with Traumatic Brain Injury who remain in a coma-like condition, with significant physical and cognitive impairments and other sensory deficits, may be served in their homes, nursing homes, hospitals, or in schools, depending upon their individual strengths and needs.

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INTERVENTIONS

The quality of the educational program offered to students who have sustained traumatic brain injuries can be critical to their recovery potential. The New York State *Traumatic Brain Injury: Guide for Educators* (1994) recommends that four major educational approaches be considered for students with Traumatic Brain Injury to address cognitive, behavioral, social, and academic skills:

- Teaching new skills and concepts;
- Teaching a student to use compensatory strategies;
- Making modifications to the environment to assist a student to compensate for losses in physical and cognitive abilities; and
- Making modifications in teaching approaches. (p. 37)

Telzrow (1987) identifies ten characteristics of a "quality educational delivery system" for students with Traumatic Brain Injuries. These characteristics are:

- Maximally controlled environment
- Low student-teacher ratio
- Intensive and repetitive
- Emphasis on process
- Behavioral programming
- Integrated instructional therapies
- Simulation experiences
- Cueing, fading, and shadowing
- Readjustment counseling
- Home-school liaison

(pp. 542 - 544)

Gloeckler & Simpson (1988) describe three aspects of the educational environment that interact with one another: the physical environment, the social environment, and the psychological environment. Based upon this description, Blosser & DePompei (1994) make the following suggestions to

educators trying to create a physical, social, and psychological environment most conducive to optimal learning for the student with Traumatic Brain Injury:

- Identify aspects of the environment that will restrict a student's learning or pose barriers (physically, auditorially, visually).
- Eliminate or modify barriers and decrease distractions.
- Convey a sense of order by structuring and manipulating the classroom environment physically and visually to facilitate organization and identification of learning activities and materials (e. g. post due dates and schedules, using simple directions, codes and numbers).
- Consider the student's location in relation to the teacher's usual teaching position.
- Permit ease of movement and promote clear traffic patterns by carefully planning seating and furniture arrangements.
- Make teaching resources, materials, and equipment available and accessible. (p. 424)

Teachers can establish a positive psychological environment in the classroom by warmly accepting students as individuals, clearly relaying expectations and goals to students, responding fairly and consistently to student behaviors, and engaging students in meaningful learning tasks. Teachers who promote a warm, friendly, sharing, and accepting social environment help students establish and maintain relationships with their peers (Blosser & DePompei, 1994, p. 424).

Modifications and adaptations to the learning environment will need to be made to meet the special needs of the returning student. Those modifications may include changing the teaching mode, modifying the school setting, adapting instructional materials, and/or using special strategies to provide additional support to the student with special needs. Sample checklists for modifying the elementary and secondary classroom to better meet the needs of students with

Traumatic Brain Injury have been reprinted on pages 169 & 173 of Appendix D (Oregon, 1991, pp. 29 - 30).

Rhein & Farmer (1994) have developed eight guidelines for interventions, which they refer to as a "developed mind set that needs to be in place before specific strategies can be implemented." These guidelines are:

1. Choose techniques that are simple to implement.
2. Utilize to the fullest any ancillary personnel, such as occupational therapists and speech therapists, available.
3. Request a full comprehensive evaluation of the student and information from the rehabilitation program as to what strategies have and have not worked.
4. Recognize the uniqueness of each student.
5. Schedule weekly review sessions with students to evaluate how well interventions are working.
6. Realize that the development of strategies and their effective use is an ongoing process and is most successful when presented within a team approach.
7. Acknowledge that success with higher level activities can only be achieved through the mastery of lower level skills.
8. Encourage family involvement, so that the strategies developed for school activities can also be incorporated into the student's home routine. (p. 1)

Specialists in the field of brain injuries recommend interventions that address specific cognitive and behavioral needs. Rhein and Farmer (1994) caution that each of the following deficit categories is "not an isolated area, but rather a component of a complex learner whose educational success will only occur through integration" (pp. 1).

A list of recommended interventions that address cognitive and behavioral needs follows.

Cognitive Needs

Attention/Concentration

1. Place the student near the chalkboard, screen, and teacher.
2. Place the student in classroom settings as far removed from external interferences as possible.
3. Remove unnecessary distracters and minimize extraneous auditory and visual stimulation through the use of study carrels or room dividers.
4. Allow the student to work in small group settings.
5. Explore a variety of cueing systems that remind the student to stay on task and promote self-monitoring.
6. Use verbal mediation strategies, such as inserting questions within a lesson and directing attention to the task and topic.
7. Limit the length or intensity of the instructional session, gradually increasing demands as attention skills increase.
8. Use techniques that focus the student's attention on specific information.
9. Gain attention with meaningful stimuli by teaching from a point of familiarity and then moving to new or less familiar concepts.
10. Use clearly defined objectives that are meaningful for the student.
11. Use short and concise instructions and assignments.
12. Reward on-task behavior.
13. Use novel, unusual, relevant and stimulating activities.
14. Provide well-placed rest periods or breaks to minimize fatigue or stamina problems that affect attention.
15. Closely monitor time of day, medications and fatigue factors.
16. Be alert to drifts in attention and redirect the student to task when necessary.

(Cohen, Joyce, Rhodes, & Welks, 1985; Gerring & Carney, 1992; Mira, Tucker, & Tyler, 1992; National Head Injury Foundation, 1988; Rhein & Farmer, 1994).

Memory

1. Limit the number of strategies utilized and teach techniques that can be applied in a variety of situations.
2. Determine whether the student tends to remember the first or the last things heard, and use that information as a teaching/learning strategy.
3. Work on developing and improving the student's note taking and outlining skills.
4. Use visual imagery and teach the student to use visual imagery techniques.
5. For long-term memory storage, teach the use of such devices as developing rhymes, word associations, mnemonic devices, and visual imagery.
6. Provide supports and adaptive devices to help the student remember such as tape recorders, alarm watches, calendars, datebooks, and log/assignment books.
7. Try to make the material to be learned significant and relevant to the student.
8. Match the student's learning style with the instructional method.
9. Regularly summarize information as it is being taught.
10. Control the amount of information presented at one time.
11. Give multisensory presentations.
12. Reinforce information presented with pictures or other visual images.
13. Encourage the student to mentally picture events, objects, scenes, or physical layouts
14. Use overlapping techniques, such as repetition and rehearsal.
15. Have the student overlearn material.
16. Couple new information with previously learned information.
17. Teach the student to organize information into categories to make recall easier.
18. Teach the student to use study strategies such as SQ3R (survey, question, read, recite, and review).
19. Have the student keep a daily notebook organizer where the student can centrally locate all important information.
20. Use verbal rehearsal. Encourage the student to repeat information aloud and then silently.
21. Underline key words in a passage for emphasis.
22. Role play or pantomime information to be remembered.
23. Write down key information to be remembered, such as who, what, when.
24. Provide a printed or pictured schedule of daily activities, locations, and materials needed.
25. Provide immediate and frequent feedback to enable the student to interpret success or failure.

(Gerring & Carney, 1992; Mira, Tucker, & Tyler, 1992; National Head Injury Foundation, 1988; Rhein & Farmer,1994; Ylvisaker, 1985)

Cognitive Needs, continued

Vision	Organization	Problem Solving
1. Give careful consideration to the position of the student relative to the chalkboard and screens. 2. Use large print books and/or books on tape. 3. Encourage the student to use rulers to aid visual scanning and processing time. 4. Alternate visual and auditory activities. 5. Build in frequent visual rest breaks. 6. Assign a second student to review notes with the student to make sure important information has been included and is accurate. 7. Teach the student to place materials within his or her best visual field. 8. Provide longer viewing times or repeat viewings when using visual instructional materials.	1. Break down assignments into manageable parts. 2. Outline and summarize important points before answering questions. 3. Teach the student to ask "wh" questions. 4. Engage in discussion groups that require critical thinking. 5. Limit the number of steps in a task. 6. Provide part of a sequence and have the student finish it. 7. Structure thinking processes graphically. 8. Use categories to focus on one topic at a time. 9. Identify the main idea and supporting details and teach the student to do the same. 10. Teach the student to practice organizational skills at home.)	1. Develop a problem-solving guide to help the student through the stages of problem solving (e.g. identify the problem, list relevant information, evaluate possible solutions, create an action plan). 2. Raise questions about alternatives and consequences. 3. Allow the student to talk about real-life problems that are appropriate for group discussion, and brainstorm about alternative solutions and their usefulness. 4. Introduce roadblocks and complications to enhance "detouring" skills and to encourage flexibility. 5. Provide ongoing, non-judgmental feedback.
(Gerring & Carney, 1992; Mira, Tucker, & Tyler, 1992; National Head Injury Foundation, 1988; Rhein & Farmer, 1994; Ylvisaker, 1985)	(National Head Injury Foundation, 1988; Rhein & Farmer, 1994)	(National Head Injury Foundation, 1988)

COGNITIVE NEEDS, CONTINUED

Comprehension/Following Directions	Reasoning and Mental Flexibility	Acquiring New Learning
1. Provide the student with both visual and auditory directions. 2 Model tasks and act out directions. 3. Break multistep directions into smaller parts and list them so that the student can refer to the individual steps. 4. Tape record complex directions and allow student to listen several times. 5. Use more concrete language. 6. Teach the students to ask for clarification, repetition, or for information to be given at a slower rate. 7. Pair manual signs, gestures, or pictures with verbal information. 8. Use cognitive mapping (Gold, 1984): diagram ideas in order of importance or sequence to clarify content graphically.	1. When testing a student, state the question as studied; rephrasing the question may be perceived as a new question. 2. Provide instruction that does not require high degrees of assimilation. Focus on one topic before interrelating it with others. 3. Practice reasoning tasks, such as exercises in analyzing facts. 4. Provide activities such as crossword puzzles. 5. Role play cause-and-effect scenarios. 6. Provide what? why? questions to facilitate reasoning. 7. Provide exercises in the comprehension of figurative language, such as idioms, and words with multiple meanings that are potentially confusing. 8. Role play mediating an argument. Ask the student to analyze and synthesize the two points of view presented and then arrive at a solution. 9. Provide speech-language therapy to improve reasoning and mental flexibility.	1. Determine processing styles and "teach to" strengths. 2. Analyze the material being taught in terms of tasks; analyze student's error patterns. 3. Present information in a structured/organized fashion. 4. Present new material slowly and over time. 5. Avoid abstractions such as idiomatic expressions in teaching. 6. Utilize multisensory approaches whenever possible. 7. Stress active participation by the student. 8. Provide opportunities for one-on-one instruction and tutoring, especially for content subjects.
(Mira, Tucker, & Tyler, 1992; Ylvisaker, 1985)	(Mira, Tucker, & Tyler, 1992)	(Rhein & Farmer, 1994)

Behavioral Needs

Agitation and Irritability	Aggression	Poor Emotional Control
1. Try to help the student identify what is causing the agitation and irritability, such as fatigue or frustration, and then find ways to cope. 2. When a student becomes agitated or irritated and has an outburst, redirect the student away from the source of frustration. Do not dwell on the outburst or what the student did. 3. During severe outbursts, redirect and reduce the stimulation or frustration by offering the student an alternative action to help him or her cool off, such as taking a walk.	1. Know the student well enough to redirect agitated behaviors before they escalate. 2. Speak calmly and gently to a student who has become aggressive. Be a calm, caring, and controlled role model. 3. Use key phrases which are familiar to help the student gain control of the aggressive behaviors. 4. If the student's aggressive behaviors cannot be controlled and/or threatens the safety of others, emergency procedures should be followed	1. Redirect behavior, change the subject or environment, and refocus the student's attention to something positive. 2. Be sensitive to the student's inclination to overreact to negative criticism and perceived ridicule. 3. Help the student recognize that recovery, like life, is full of ups and downs; help the student reorient toward positive goals during downward mood swings. 4. If the student uses offensive language or becomes very critical of others, remind the student of how such language affects others and help him or her restate feelings in more positive tones.
(National Head Injury Foundation, 1988)	(National Head Injury Foundation, 1988)	(National Head Injury Foundation, 1988)

BEHAVIORAL NEEDS, CONTINUED

Apathy	Depression, Withdrawal, and Self-Criticism	Lack of Insight/Denial of Disabilities
1. Give the student a choice of activities, and keep the student involved in group activities with other students. 2. Help the student explore what he or she really wants, proceed in small steps, and set easy goals; show the student he or she can succeed. 3. Structure practice situations so the student can practice perceiving the feelings of others and responding appropriately.	1. Remember that depression following a head injury is common for many students who remember what they were like and their abilities before the injury. 2. Help the student recognize what he or she can do rather than what they cannot do. Keep the student involved in the "real world" and help them not to slip into the past. 3. Be an active listener when the student needs to talk and focus on the student's positive feelings. 4. Chart achievement of goals to build self-confidence. 5. If a student becomes suicidal, contact the school psychologist or counselor and the student's parents immediately.	1. Realize that many students with right hemisphere injuries may not recognize their problems and thus may deny that they have any. 2. Help the student to think of himself or herself in terms of strengths and needs rather than disabilities or deficits. 3. Find the student's strongest learning modality (visual, auditory, tactile) and use this modality to help the student recognize their problem areas.
(National Head Injury Foundation, 1988)	(National Head Injury Foundation, 1988; Ylvisaker, 1985)	(National Head Injury Foundation, 1988)

BEHAVIORAL NEEDS, CONTINUED

Impulsive Behavior/Lack of Inhibition	Disorientation or Confusion	Lack of Social Skills
1. Be aware that students with frontal lobe injuries often feel "out of control" and cannot effectively inhibit impulses. 2. Help the student better manage his or her world by keeping activities organized and structured and using aids such as calendars and assignment logs to organize their lives. 3. Use key words and phrases to help the student track behaviors and lessen impulsivity. 4. Have the student write down his or her plans and focus on routines to decrease "not knowing what to do next" behaviors. 5. Place unnecessary materials out of sight and out of reach. 6. Discuss rules and their importance at the beginning of the lesson. 7. Explain how the student's impulsive acts disturb others. 8. Role play appropriate responses.	1. Provide an uncluttered, quiet environment. 2. Provide printed or pictorial charts, schedules, or classroom maps that describe routines and rules of expected behaviors. Review these before each session and as needed throughout the day. 3. Maintain consistent staff, room arrangement, and materials. 4. Label significant objects and areas. 5. Teach students to look for permanent landmarks and name the landmarks when they come to them. 6. Have students verbalize how to go to a specific place *before* starting or while moving. 7. Use a buddy system.	1. Give individualized social skills instruction. 2. Incorporate the student into small group activities to facilitate informal interactions and permit peer modeling. 3. Assign a "buddy" to assist with travel throughout the school and a classroom work partner to help the student within the classroom. 4. Plan extracurricular activities based on the student's physical and emotional capabilities as well as interests to encourage non-academic experiences.
(National Head Injury Foundation, 1988; Ylvisaker, 1985)	(Ylvisaker, 1985)	(Blosser & DePompei, 1994; Mira, Tucker, & Tyler, 1992)

A portion of Oregon's *Traumatic Brain Injury: An Educator's Manual* (1991) entitled "Serving the Student with TBI" outlines possible deficits, behaviors, and teaching strategies for students with traumatic brain injuries. This section has been reproduced on pages xxx of Appendix D. A similar section of Virginia's *Guidelines for Educational Services for Students with Traumatic Brain Injury* (1992) outlining "Observable Behaviors and Strategies" has been reproduced on pages 177 - 184 of Appendix D.

New York State's *Traumatic Brain Injury: A Guidebook for Educators* (1994) divides intervention approaches into three areas: Compensatory Strategies, Environmental Modifications, and Instructional Modifications. Examples of these have been reproduced on pages 209 - 212 of Appendix D.

Waaland (1991) lists four program areas—Scheduling, Instructional Strategies, Assistive Device, and Social/Behavioral Interventions—and suggests interventions that address issues, problems, and deficits in each of these area. This chart has been reproduced on pages 215 - 216 of Appendix D.

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EDUCATION AND AWARENESS

As the incidence of Traumatic Brain Injury continues to rise, education and prevention efforts are ongoing across the country on both district and state levels in order to increase student awareness of prevention of Traumatic Brain Injury and to train educators to work more effectively with students who have sustained brain injuries.

State Efforts

Utah's *Guidelines for Serving Students With Traumatic Brain Injuries* (1992) makes a number of recommendations for State Education Agencies and Local Education Agencies to increase awareness and understanding of Traumatic Brain Injury among staff members as well as students. Among those recommendations are the following:

- Developing educational materials and programs for noninjured students to increase their understanding and acceptance of classmates who have experienced Traumatic Brain Injury but also to increase their knowledge of prevention strategies to reduce the risk of Traumatic Brain Injuries for themselves and others;
- Making an educator's guide to Traumatic Brain Injury available to all school staff members;
- Offering training programs on Traumatic Brain Injury to school staff members;
- Developing an awareness program to train teachers to identify students who may have sustained an untreated Traumatic Brain Injury and refer those students for assistance;
- Providing inservice training to school districts regarding Traumatic Brain Injury, its consequences, prevention strategies, and educational implications and assisting school districts in developing procedures to provide inservice training to all district personnel; and

- Maintaining a roster of qualified presenters and trainers on Traumatic Brain Injury issues;
- Making educational and support programs available to parents of children who have sustained Traumatic Brain Injuries;
- Developing a parent's guide to help increase awareness and knowledge of educational options for students with a Traumatic Brain Injury;
- Informing health care providers about the educational needs of students with Traumatic Brain Injuries;
- Developing and maintaining, with the assistance of public libraries, a clearinghouse of educational resources on Traumatic Brain Injury for parents, teachers, and the public;
- Developing public service announcements in collaboration with parent groups and head injury associations to increase the level of awareness in the community and provide programs to help prevent Traumatic Brain Injury;
- Assembling and training a Head Injury Team in each school district to serve as a resource whenever a student with Traumatic Brain Injury is identified in the school district;
- Disseminating updated information on Traumatic Brain Injury to all institutions training future educators;
- Encouraging universities to include Traumatic Brain Injury information in courses about disabilities; and
- Initiating changes in teacher certification to include curriculum regarding Traumatic Brain Injury. (pp. 7 - 12)

In their survey of special education directors, Katsiyannis & Conderman (1994) found that 37 states offer technical assistance to local education agencies (LEAs) on Traumatic Brain Injury, and 23 states that indicated their state departments offer training to LEAs on the same issue. The training topics most frequently addressed are identification, assessment, programming, and full inclusion practices. Arizona, Florida, Kentucky, Montana, Rhode Island, and Virginia have developed technical assistance manuals. New York, Oklahoma, and Connecticut offer primary technical assistance through regional centers.

Other states have entered collaborative agreements with other state agencies and private institutions and/or clinics to assist LEAs.

An in-service training project underway in Oregon is training educators to be consultants to other educators on Traumatic Brain Injury (Training on TBI, 1995). Funded by a U. S. Department of Education grant, the TBI Inservice Project provides training to teams throughout the state to promote effective educational practices for students with Traumatic Brain Injuries. The one-year training period includes information about Traumatic Brain injury; interventions for behavioral, academic, and social outcomes; consultation skills to facilitate collaboration among school personnel and foster positive parent/professional interactions. Once teams are trained, they provide consultation and inservice training to other school personnel in their regions. (For additional information about the TBI Inservice Project, contact Bonnie Todis, 99 W. 10th Ave., Suite 337C, Eugene, OR 97401, (503) 345-0593).

The state of Kansas has also developed a statewide model of preservice and inservice training for educators and parents in the area of Traumatic Brain Injury. The primary purposes of the project are:

1. To develop and field test inservice and preservice training modules, including diagnostic and teaching methods, curricular materials, and resource linkages;
2. To train a regional cadre of educational personnel to serve as inservice providers and consultant/resource persons for local education agency staff and parents; and
3. To create a system for ongoing preservice and inservice training and dissemination of the TBI training model after the project has been completed.

This federally funded, five-year project is a collaborative effort between the Kansas State Department of Education and the Department of Special Education/University of Kansas. Educational and medical staff of the Children's Rehabilitation Unit University Affiliated Program and the University of Kansas Medical Center are serving as staff and resources for the project.

Kansas is a large state which is predominantly rural, and implementation of statewide inservice training requires a regional network capable of providing human and technological resources. Regional Area Education Service Centers have indicated their willingness and interest in participating in the provision of training for regional and local educational personnel and parents. An interactive video system, which will allow distant teaching, consultation, and supervision of practica, is in operation in the Area Service Centers of the most rural areas of the state.

For more information concerning this state project, contact the Special Education Office, Kansas State Department of Education, 120 East Tenth Street, Topeka, KS 66612-1103, (913) 296-3869.

District Efforts

A number of school districts are incorporating educational and prevention programs into their curricula. These programs are designed to increase children's perceptions of the severity of brain injuries and their own vulnerability, to help students gain a better understanding of cause-effect relationships and the rationale for safety principles, and to enhance the perception that injuries can be prevented and that safe behavior is smart (Richards, 1992).

A typical elementary curriculum entitled *Preventing Injury: A Safety Curriculum* is based on principles and approaches of child development, early

childhood education, and prevention psychology. The curriculum's operating assumption is that if awareness of catastrophic injury can be established early in children's lives, as well as knowledge of ways to avoid such injury, they will age into the high-risk age category (15 - 24 years) with better formed attitudes, beliefs, and appropriate behavioral strategies concerning behaviors that can lead to injury. The curriculum includes eight units: Spinal Cord and Brain Injury Awareness, Motor Vehicle Safety, Pedestrian Safety, Bike Safety, Playground and Recreational Sports Safety, Preventing Falls, Weapons Safety, and Water Safety (Richards, 1992). Programs aimed at elementary school students strive to help students develop safe habits while they are young before behavioral patterns become increasingly more difficult to change as children reach adolescence.

The School Injury Prevention Resource Guide (Brackett, 1992) describes resources that may be used by educators to address injury prevention in their classrooms. Curricula are included that are especially designed for elementary, middle school, and high school students. These cover a broad range of prevention issues, including skills for injury prevention (pedestrian safety, playground safety, bicycle safety), stopping violence, and managing anger.

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INTERNET RESOURCES

Title: Emory Center for Injury Control

Address: http://www.emory.edu/WHI/cichome.html

Description: The Emory Center for Injury Control is a collaboration of Emory's schools of Public Health and Medicine. The center's clinical partner is the Grady Hospital Trauma Center. The broad-based Center for Injury Control is involved in research, community service, and education with emphasis on prevention.

Title: Fact Brochures

Address: http://www.sasquatch.com/tpn/brochures.html

Description: Brain Injury: Prevention IS Worth a Pound of Cure but Sometimes It Happens Anyway! is a brochure that includes brain injury statistics as well as signs/symptoms. It focuses on prevention steps that can be taken.

Title: Ohio Valley Center for Head Injury Prevention and Rehabilitation

Address: http://rmstewart.uthscsa.edu/ccmcase15.html

Description: The Ohio Valley Center is located at Ohio State University in the Department of Physical Medicine and Rehabilitation. The center develops and distributes model programs of prevention, acute care, and rehabilitation for individuals who have had Traumatic Brain Injuries.

Title: The Perspectives Network

Address: http://www.sasquatch.com/tpn/

Description: The Perspectives Network, Inc. is an international tax-exempt, non-profit organization founded by a survivor of acquired brain injury in 1990. As evidenced by the services its offers, TPN's primary focus is communication between survivors, family members/caregivers/friends, professionals and

community members in order to create positive changes and enhance public awareness and knowledge of acquired brain injury.

TPN services include:

- The TPN Magazine including Current On-Line Issue
- Computer Forums
- Survivor Identification Cards
- Peer Communication Networks
- Fact Brochures
- Lending Library & Topical File Archives
- Brain Injury Empathy Experience Workshops
- Frequently Asked Questions (FAQ)
- Resources: Books, Publications, Periodicals, Videos
- Information/Material Request Form
- Support Groups (Searchable by City)
- Additional Internet ABI/TBI Resources

Title: Technical Assistance Center Serving Southwest Virginia

Address:
http://infoserver.etl.vt.edu/coe/COE_admin/labs&centers/tac/tac_p.html

Description: The Technical Assistance Center for Students with Severe Disabilities (SD TAC) provides assistance to teachers and school personnel in southwest Virginia serving students who have been identified as autism, dual-sensory impairments, traumatic brain injury, visual or hearing impairments, severe to profound cognitive impairments, as well as students who have orthopedic impairments or multiple handicaps. Services include on-site consultations, workshops, long-term planning with school divisions, and an information and referral services to educators. The SD TAC has a lending library covering a wide range of topics of interest to individuals who teach, assist or support students with severe disabilities. Additionally, the library offers the use of assistive technology devices and software.

Title: ABI/TBI Information Project

Address: http://ns.sasquatch.com/tbi/Welcome.html

Description: In conjunction with the TBI- SPRT E-Mail List and ABI/TBI Gopher, this area is dedicated to providing information on brain injury without preference to any particular person, thought, theory or belief. Information is provided about the TBI-SPRT e-mail list and how to subscribe. The site also includes selected articles pertaining to Traumatic Brain Injury and topical discussion archives which may be searched by keywords.

Title: Acquired Brain Injury Forum

Address: http://aztec.asu.edu/abi/welcome.html

Description: This forum is for the Acquired Brain Injury (ABI/TBI) Community of Arizona. It is being hosted by The Perspectives Network whose logo appears at the top of the page. In this forum you will find regional information regarding the Arizona Head Injury Foundation, the various support groups they sponsor as well as national information and resources.

Arizona resources include:

- Arizona Head Injury Foundation (AHIF)
- Support Groups
- An ABI/TBI Discussion Group can be found in the AzTeC SIG area.
- National Resources
- The Perspectives Network (TPN) On-Line
- Frequently Asked Questions (FAQ)
- Resources: Books, Publications, Periodicals, Videos
- The ABI/TBI Information Project Gopher
- An international ABI/TBI Newgroup called TBI SPRT can be found in the AzTeC SIG area.

Title: Injury Control Resource Information Network

Address: http://www.pitt.edu/~hweiss/injury.htm

Description: ICRIN is a dynamic list of Internet accessible resources broadly related to the field of injury research and control. The resources are in the form of clickable hyperlinks to other sources and documents somewhere on the Net. New users may want to look at the ICRIN slide show that presents an overview of the structure, content, and benefits of this site. Contents of ICRIN include:

- Federal Agencies (U.S.)
- Data and Database Sources
- Data Standards
- Journals, Bibliographies, and Desk References
- Education and Training
- Conferences and Meeting Announcements
- Injury Specific Resource
- Recent Research
- Injury Prevention Research Centers
- Grant Opportunities and Information
- Professional and Other Organizations
- Related Discipline Links
- Safety Products (commercial)
- Software and Related Research Tools (available through web browsers and FTP)
- Other Injury Related Internet Resources (lists, newsgroups, BBS, E-mail)
- Searches (places to conduct key word searches for Internet resources)
- Neat Stuff (innovative uses of the WEB with possible applications to Injury Control)
- Feedback (E-mail a comment to the author about ICRIN)

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1776 Massachusetts Avenue NW
Suite 100
Washington, DC 20036
(202) 296-6443

Idaho Head Injury Foundation
76 West 100 North
Blackfoot, ID 83204
(208) 785-0685

Rehabilitation Research and Training Center on Severe Traumatic Brain Injury
MCV Box 434
Richmond, VA 23298-0434
(804) 828-4232

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Appendix A

Kazuk, E., & Stewart, D. (1993, August). *Planning for Traumatic Brain Injury (TBI): A new challenge for special education.* Plantation, FL: South Atlantic Regional Resource Center.

SARRC REPORTS

Emerging Issues and Trends in Education

South Atlantic Regional Resource Center *August 1993*

Planning for Traumatic Brain Injury (TBI) A New Challenge for Special Education

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INTRODUCTION

As a result of changes in the Individuals with Disabilities Act made by Congress in 1990 (P.L. 101-476) and 1991 (P.L. 102-119), special education systems throughout the country are formulating plans to address the newly added category of "traumatic brain injury" (TBI), also referred to as head injury and traumatic head injury. TBI is defined in the new regulations as "an acquired injury to the brain caused by an external physical force, resulting in total or partial functional disability or psychosocial impairment, or both, that adversely affects a child's educational performance..."

In the past and also currently, students with TBI have been considered a low-incidence population. However, because of advances in emergency medicine and in neurological assessment techniques, increasing numbers of children with TBI are being identified each year. It has been estimated that annually 1 child in 500 receives an injury serious enough to cause lasting problems (Krause, Fife, & Conroy, 1987). Rivera and Mueller (1986) have estimated that 3% of students will have a head injury by age 15. Also, it is widely noted in the literature regarding childhood injuries that traumatic brain injury is the primary cause of death and disability among youth in the United States today (Waaland, 1990). The injuries primarily result from motor vehicle crashes, falls, abuse, violence and sports related or pedestrian accidents.

In planning for this growing population, school systems are faced with challenges which are unique to this category of disability and much different from those faced with other special education categories. From the definition of TBI, to identification, classification, placement and delivery of services, the planning process is likely to become bogged down with issues which have not been addressed with previous disabilities. The purpose of this paper is to delineate the major issues so that (a) further research can be done more expeditiously and (b) realistic expectations can be established for how quickly and effectively special education departments can respond to the changes in the statues.

ISSUES

The following issues underlie many of the more specific questions and concerns which arise during the planning process.

1. Traumatic brain injury, more than any other category of disability, includes a tremendous range and variety of problems. Consequently, it is difficult to describe a typical case, create a standard curriculum, or predict what outcomes are likely to occur. When a head injury occurs, the brain bounces back and forth against the inside of the skull causing diffused damage to

brain tissue, brain stem, and to various cognitive, behavioral, sensorimotor and physical functions. The damage is unique in every individual depending on where and how hard the head is struck. It is extremely difficult to access the amount of permanent damage to the brain or to predict long-term resulting disabilities. Age, preinjury characteristics, developmental stage, family reactions, assessment and treatment techniques are additional factors adding to the problems (Waaland, 1990).

Complicating the matter even further is that individuals with brain injury often remember how they were before the trauma, so that a number of secondary emotional and psychosocial problems can occur in addition to the original injury. This is not usually present in children with congenital disabilities (Tucker & Colson, 1992).

Finally, a brain injury is often classified, particularly in medical models, as being mild, moderate or severe and educators may assume this can predict the outcome of resulting disabilities. However, these categories represent various neurological sequelae based on information collected in the acute care setting. They can be most inaccurate if used to indicate potential for school-related problems since students with mild brain injury can experience more disabling problems in the long run than those who were classified as having severe injures (Savage, 1991).

It is easy to see from the above factors that planning for TBI is really planning for a complicated, interacting set of sensorimotor, cognitive, social/behavioral and family problems which uniquely manifest themselves in every student and cannot be encompassed adequately in any one disability category. Establishing educational criteria for this category is an extremely difficult challenge.

2. Recovery and performance of students with TBI is a dynamic and unpredictable process. While other special education students are usually neurologically stable with strengths and weaknesses which might be relatively predictable, students with a TBI can change neurologically at a fairly rapid pace for weeks, months or even years following return (Ylvisaker, Hartwick, & Stevens, 1991). Also, in some cases, problems can arise months or years after the initial injury as the student goes through developmental stages and is confronted with more complex intellectual and social tasks (Telzrow, 1991). Therefore, assessments should be made often (i.e., every 6 to 12 weeks) rather than at six months or one year intervals as is the usual practice.

Educational needs of a student with TBI may cross categorical or grade-level lines or require a combination of home-based and school-based programs including the regular classroom and other special education settings. The requirements for noncategorical programming may not be unusual for some school systems. But for most educational planners, the extent, frequency, and uniqueness of individualized program formats which must be created or adapted for students with TBI, are particularly challenging problems.

3. Assessment of students with a TBI usually requires procedures which traditionally have not been used by school psychologists or other educational specialists. Traditional assessments usually consist of IQ tests and evaluation of educational or academic performance and perceptual motor skills. These tests, however, are not sensitive to neuropsychological needs of TBI students. Therefore, many students with TBI perform adequately on school assessment measures, but have significant learning and adjustment problems. Conversely, students may score exceptionally low on school assessment measures and perform quite well in class (Telzrow, 1991).

Assessment for TBI programming should document and describe neuropsychological functioning. Neuropsychology is a specialty area of psychology which focuses on the relationship between brain function and behavior. Neuropsychologists who are experienced in evaluating children or school psychologists who are trained in this area should be utilized to provide assessments which are essential for developing interventions. These individuals may be located through the nearest medical school or rehabilitation facility or by calling the National Head Injury Association in Washington D.C., which also has chapters in most states.

As with other special education categories, evaluations of students with TBI should be multidisciplinary including the expertise of professionals such as occupational and physical therapists, speech-language pathologists, nurses, teachers, and social workers. But, perhaps more than in any other category, evaluations should include a functional analysis obtained from natural school environments and nonacademic settings (Telztow, 1991). Observations from classroom teachers, social workers, and others who interact with the student throughout the day can be as valuable as standard evaluation tools in assessing the student's abilities. Contextual assessments should also include family input, family reactions to the injury, and general family characteristics which Waaland (1990) reports have a strong, direct relationship to school adjustment. However, measuring and interpreting these aspects of the student's experience, particularly as it changes during various stages of recovery, adds a dimension and challenge to the assessment and planning process which most schools have not previously faced.

4. Programming for a student with a recent and serious TBI requires cross-disciplinary planning between educational and medical models. Transitioning from a biophysical environment at a hospital to a psychodynamic environment at school is a critical step in the student's recovery that needs to be carefully coordinated with the family, school, and rehabilitation professionals (Savage, 1991; Ylvisaker, Hartwick, & Stevens, 1991). Most school systems do not have processes in place for this type of planning to occur. Therefore, new models and procedures for successful integration need to be established,

using newly formed, home-school-hospital teams. School personnel need to be trained in serving this population and in translating medical information into an educational context. On the other hand, rehabilitation therapists need to understand what educational planning requires and how to provide information and support services within an educational environment.

Ideally, specialized transitional classrooms would be available to bridge the gap between hospital and school during the post acute care period when recovery is characterized by rapid change. They would be staffed by specially trained educators and rehabilitation staff who would plan for and manage the needs of children who do not need intensive medical services but who are not ready to return to school. These classrooms do exist in a few school systems and private rehabilitation facilities in the country; however, most communities are faced with the challenge of planning for transition without special TBI re-entry classrooms. Consequently, short and long-term planning and coordination must take place to ensure cross-disciplinary communication, information exchange, and the availability of follow-up and support services during the time students need combined medical and educational programming.

5. Determining the number of children to be served is a confusing task with significant financial implications. Because information on neurological functioning and appropriate assessment procedures traditionally have not been utilized by or available to school personnel in most school systems, many students have been misidentified or classified incorrectly. Consequently, when numbers of students needing services are based on the number of students currently classified with TBI, the problem may be significantly under-represented. Also, the changing nature of TBI described above may result in students needing special services long after the time when parents and school personnel believe the child to be fully recovered. This is particularly true of mild and moderate cases in which symptoms did not appear to be serious at the time of the injury. School systems must decide how and whether these individuals will be sought out or included in the numbers to be served. They must also decide whether to include children who have acquired brain injuries which were not a result of an external blow to the head (e.g., infections, brain tumors, strokes) but who often need the same support and special education needs.

Determining the number of children to be served is not only a challenge for educational planners but for administrators as well, since the financial implications can be overwhelming. While schools may be able to work with insurance companies and other third-party payors to share the medical costs of individuals who are identified, the cost of both short-term and long-term neurologically based rehabilitation programs and services can be prohibitive for many school districts. It will be necessary for medical and education professionals and administrators to work together creatively to assure that the needs of the students with neurological dysfunctions are being met and that all parties are appropriately sharing the costs as the law requires.

FUTURE

The numbers of students with TBI can be expected to increase with continued advances in technology improving survival rates. At the same time, identification procedures, intervention techniques, educational approaches, and assistive technology services are also expected to improve.

The Decade of the Brain, as former President Bush named the 1990's, is upon us and information and knowledge about the brain and its functions changes almost daily. The new field of cognitive science is a growing, multidisciplinary area which is producing an entirely new body of knowledge to be used as a source of information for education and rehabilitation professionals (Lucas, 1992). To the educational planner this means the entire field of traumatic brain injury (like the injury itself as it affects each individually) is a "moving target" so to speak -- in a state of growth and change. While this may lead to exciting breakthroughs in cognitive research and rehabilitation, to the pragmatic planner it means that the task is not one of merely learning new information and developing applicable curriculum and programs, but of establishing processes and procedures to accommodate change. This will be done through a tremendous amount of teamwork among rehabilitation professionals, education specialists, the family, and, where appropriate, the student. Most importantly, it will be done through cross-disciplinary understanding and exchange of information resulting from coordination and planning in the wider community far beyond the walls of the school building itself.

In summary, planning for students with TBI may be no different than planning for all students as the world becomes more complex in general and teachers move from being information givers to facilitators and managers of resources which meet individual needs. Students with TBI need integrated, interdisciplinary, individualized programming which is basically what all students need. When a commitment is made to meet the individual needs of each student and to draw on every available resource from a variety of disciplines to meet those needs, then planning for TBI will not be a question of setting up unique procedures for a unique category of special education, but the model for meeting the unique educational needs of all students, regardless of disability.

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This newsletter is a publication of the South Atlantic Regional Resource Center (SARRC). The development of this work was supported by the U.S. Department of Education, Office of Special Education Programs Cooperative Agreement No. H0283005 awarded to Florida Atlantic University. The materials contained herein do not necessarily reflect the position or policy of the U.S. Department of Education, Office of Special Education and no official endorsement should be inferred.

The Center provides information, technical assistance, consultation, and training, as requested, to state education agencies and through them to local education agencies and other appropriate public agencies who provide special education, related services, and early intervention services for infants, toddlers, children and youth with disabilities and their families.

Appendix B

General information about Traumatic Brain Injury. NICHCY Fact Sheet Number 18 (FS18). (1994). Washington, DC: National Information Center for Children and Youth with Disabilities.

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TRAUMATIC BRAIN INJURY

Definition

The regulations for Public Law 101-476, the Individuals with Disabilities Education Act (IDEA), formerly the Education of the Handicapped Act, now include Traumatic Brain Injury (TBI) as a separate disability category. While children with TBI have always been eligible for special education and related services, it should be easier for them under this new category to receive the services to which they are entitled.

Traumatic Brain Injury (TBI) is defined within the IDEA as an acquired injury to the brain caused by an external physical force, resulting in total or partial functional disability or psychosocial impairment, or both, that adversely affects a child's educational performance. The term applies to open and closed head injuries resulting in impairments in one or more areas, such as: cognition; language; memory; attention; reasoning; abstract thinking; judgment; problem-solving; sensory, perceptual, and motor abilities; psychosocial behavior; physical functions; information processing; and speech. The term does not apply to brain injuries that are congenital or degenerative, or brain injuries induced by birth trauma. *(U.S. Federal Register, 57*(189), September 29, 1992, p.44802)

Incidence

TBI is the leading cause of death and disability in children and adolescents in the United States. The most frequent causes of TBI are related to motor vehicle crashes, falls, sports, and abuse/assault. More than one million children sustain head injuries annually; approximately 165,000 require hospitalization. However, many students with mild brain injury may never see a health care professional at the time of the accident.

Characteristics

The National Head Injury Foundation calls TBI "the silent epidemic," because many children have no visible impairments after a head injury. Symptoms can vary greatly depending upon the extent and location of the brain injury HOwever, impairments in one or more areas (such as cognitive functioning, physical abilities, communication, or social/behavioral disruption) are common. These impairments may be either temporary or permanent in nature and may cause partial or total functional disability as well as psychosocial maladjustment. Children who sustain TBI may experience a complex array of problems, including:

- *Physical impairments:* Speech, vision, hearing, and other sensory impairment; headaches; lack of fine motor coordination; spasticity of muscles; paresis or paralysis of one or both sides; seizure disorders; and balance and other gait impairments.
- *Cognitive impairments:* Short- and long-term memory deficits, impaired concentration, slowness of thinking, and limited attention span, as well as impairments of perception, communication, reading and writing skills, planning, sequencing, and judgment.
- *Psychosocial, behavioral, or emotional impairments:* Fatigue, mood swings, denial, self-centeredness, anxiety, depression, lowered self-esteem, sexual dysfunction, restlessness, lack of motivation, inability to self-monitor, difficulty with emotional control, inability to cope, agitation, excessive laughing or crying, and difficulty relating to others.

Any or all of the above impairments may occur to different degrees. The nature of the injury and its attendant problems can range from mild to severe, and the course of recovery is very difficult to predict for any given student. It is important to note that, with early and ongoing therapeutic intervention, the severity of these symptoms may decrease, but in varying degrees.

Educational Implications

Despite the high incidence of TBI, many medical and education professionals are unaware of the consequences of childhood head injury. Students with TBI are too often inappropriately classified as having learning disabilities, emotional disturbance, or mental retardation. As a result, the needed educational and related services may not be provided within the special education program. The designation of TBI as a separate category of disability signals that schools must provide children and youth with access to and funding for evaluations in all areas related to the traumatic brain injury, including (if appropriate) health, vision, hearing, social and emotional status, general intelligence, academic performance, communicative status, and motor abilities. The information gathered through these evaluations will assist the school and parents in developing an appropriate individualized education program (IEP).

TRAUMATIC BRAIN INJURY

While the majority of children with TBI return to school, their educational and emotional needs are likely to be very different than they were prior to the injury. Although children with TBI may seem to function much like children born with other handicapping conditions, it is important to recognize that the sudden onset of a severe disability resulting from trauma is very different. Children with brain injuries can often remember how they were before the trauma, which can result in a constellation of emotional and psychosocial problems not usually present in children with congenital disabilities. Further, the trauma impacts family, friends, and professionals who recall what the child was like prior to injury and who have difficulty in shifting and adjusting goals and expectations.

Therefore, careful planning for school re-entry (including establishing linkages between the trauma center/rehabilitation hospital and the special education team at the school) is extremely important in meeting the needs of the child. It will be important to determine whether the child needs to relearn material previously known. Supervision may be needed (i.e., between the classroom and restroom) as the child may have difficulty with orientation. Teachers should also be aware that, because the child's short-term memory may be impaired, what appears to have been learned may be forgotten later in the day. To work constructively with students with TBI, educators may need to:

- Provide repetition and consistency;
- Demonstrate new tasks, state instructions, and provide examples to illustrate ideas and concepts;
- Avoid figurative language;
- Reinforce lengthening periods of attention to appropriate tasks;
- Probe skill acquisition frequently and provide repeated practice;
- Teach compensatory strategies for increasing memory;
- Be prepared for students' reduced stamina, and provide rest breaks as needed; and
- Keep the environment as distraction-free as possible.

Initially, it may be important for teachers to gauge whether the child can follow one-step instructions well before challenging the child with a sequence of two or more directions. Often attention is focused on the child's disabilities after the injury, which reduces self-esteem; therefore, it is important to provide opportunities for success and to maximize the child's strengths.

Resources

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Update 11/94

This fact sheet is made possible through Cooperative Agreement #H030A30003 between the Academy for Educational Development and the Office of Special Education Programs, U.S. Department of Education. The contents of this publication do not necessarily reflect the views or policies of the Department of Education, nor does mention of trade names, commercial products or organizations imply endorsement by the U. S. Government.

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Información General Sobre

LESION CEREBRAL

Definición

Las regulaciones de la Ley Pública 101-476, el Acta para la Educación de los Individuos con Discapacidades (IDEA), anteriormente el Acta para la Educación de los Impedidos (EHA), ahora incluye la Lesión Cerebral como una categoría aparte. Los niños con Lesión Cerebral siempre han sido considerados elegibles para recibir los servicios a los cuales tienen derecho, pero bajo esta nueva categoría el proceso será más fácil.

La Lesión Cerebral se define en IDEA como una herida adquirida por el cerebro, la cual es causada por alguna fuerza física externa que resulta en una discapacidad funcional total o parcial o un impedimento psicológico, o ambos, que afectan adversamente el rendimiento académico del niño. El término se aplica a las heridas abiertas y cerradas, las cuales resultan en impedimentos en una o más áreas, tales como la cognición; idioma; memoria; atención; razonamiento; el pensamiento abstracto; criterio; la solución de problemas; las habilidades sensoriales, motrices, y de la percepción; el comportamiento psicosocial; las funciones físicas; el procesamiento de información; y el habla. El término no se aplica a las lesiones cerebrales congénitas o degenerativas, o a las heridas cerebrales inducidas por trauma durante el parto. (*Federal Register*, *57*(189), septiembre 29, 1992, pág. 44802)

Incidencia

Las lesiones cerebrales son la principal causa de la muerte y discapacidad en los niños y adolescentes en los Estados Unidos. Las más frecuentes causas de las lesiones cerebrales son los accidentes automovilísticos, las caídas, los deportes, y el abuso o asalto. Cada año, más de un millón de niños experimentan lesiones cerebrales; unos 165,000 requieren hospitalización. Muchos alumnos con lesiones cerebrales no ven a un profesional cuando ocurre el accidente.

Características

La organización National Head Injury Foundation ha calificado las lesiones cerebrales como "la epidemia silenciosa," porque después de la herida, muchos niños quedan sin impedimentos visibles. Los síntomas pueden variar dependiendo de la gravedad y ubicación de la herida. Sin embargo, los impedimentos en una o más áreas (tales como el funcionamiento cognoscitivo, las habilidades físicas, comunicación, o desorganización social o de la conducta) son comunes. Estos impedimentos pueden ser temporáneos o permanentes, y pueden causar discapacidades funcionales totales o parciales, además de mal ajuste psicosocial. Los niños que hayan experimentado una lesión cerebral pueden exhibir una variedad de problemas, incluyendo los siguientes:

- *Impedimentos físicos* - el habla, visión, audición, u otro impedimento sensorial; dolores de cabeza; falta de coordinación motriz; espasticidad de los músculos; paresis o parálisis en uno o ambos lados del cuerpo; desórdenes o ataques de apoplejía; e impedimentos en el balance o en el modo de andar.
- *Impedimentos cognoscitivos* - déficit de la memoria; debilitaciones en la concentración; pensamiento lento; atención limitada; impedimentos en la percepción, comunicación, y destrezas para leer y escribir, planificación, lógica, y juicio.
- *Impedimentos psico-socioemocionales y de la conducta* - fatiga, mal humor, contradicciones, el egocentrismo, las ansiedades, depresión, autoestima, disfunción sexual, inquietudes, falta de motivación, dificultades con el control emocional, la inhabilidad para hacer frente a los problemas, agitaciones, risa o llantos excesivos, y falta de habilidad para relacionarse con los demás.

Cualquier o todos de estos impedimentos pueden ocurrir a diferentes niveles. La naturaleza de la herida y los problemas que la acompañan pueden variar de leve a severo, y el curso de la recuperación es difícil de predecir. Es importante notar que, a través de la intervención terapéutica, temprana y contínua, la severidad de estos síntomas puede disminuir, pero a diferentes niveles.

Efectos en la Educación

A pesar del alto índice de lesión cerebral, muchos profesionales en los campos de la medicina y educación no están al tanto de las consecuencias de las lesiones cerebrales que ocurren durante la niñez. Los alumnos con lesión cerebral quedan equivocadamente calificados como niños con problemas de aprendizaje, trastornos emocionales o retraso

mental. Como resultado, es posible que los servicios educacionales o servicios relacionados no sean provistos dentro del programa de educación especial. La designación de lesión cerebral como categoría aparte indica que las escuelas deberían proveer a los niños y jóvenes el acceso a fondos para evaluaciones neuropsicológicas, educacionales, y del habla e idioma, entre otras necesarias, para desarrollar un programa educacional individualizado (IEP).

El hecho de que el niño se haya recuperado lo suficiente como para regresar a la escuela no quiere decir que el niño haya recuperado toda su capacidad anterior a la herida. Aunque los niños con lesión cerebral pueden demostrar una conducta similar a la de los niños que hayan nacido con otro tipo de condición o discapacidad, es importante reconocer que los efectos repentinos causados por el trauma son muy diferentes. En muchos casos el niño con lesión cerebral puede recordar como era antes del trauma, lo cual puede resultar en muchos problemas emocionales y psicosociales, diferentes a los que típicamente se encuentran en los niños con discapacidades de orígen congénito. Además, el trauma puede impactar sobre la familia, amigos, y profesionales que recuerdan como era el niño antes de la herida y que pueden tener dificultad al cambiar y ajustar sus metas y expectaciones.

Entonces, para satisfacer las necesidades del niño es muy importante planificar cuidadosamente su regreso a la escuela. También será importante determinar si el niño necesita aprender de nuevo la materia que estudió previamente. Es posible que el niño necesite supervisión (para ir desde el salón de clases hasta el baño, por ejemplo), ya que puede tener dificultad para orientarse. Los profesores deben estar al tanto de cómo la memoria del niño puede quedar impedida, todo lo que aparentemente haya aprendido en un día puede olvidársele más tarde. Para trabajar constructivamente con alumnos con lesión cerebral, los educadores deberán:

- Darle al alumno oportunidades para repetir y un ambiente consistente;
- Enseñar y demostrar nuevos trabajos, darle instrucción, y proveer ejemplos para ilustrar ideas y conceptos;
- Evitar el uso de expresiones figurativas;
- Animar al alumno a medida que vaya mejorando su concentración;
- Explorar con frecuencia la adquisición de habilidades y proveer oportunidades para la práctica;
- Enseñar estrategias compensatorias para aumentar la memoria;
- Estar preparado para la falta de vigor que es típico de los alumnos con lesión cerebral y proveer períodos de descanso como sea necesario; y
- Mantener el ambiente libre de toda distracción.

Es posible que al principio los profesores tengan que medir si el niño puede seguir instrucciones simples antes de darle instrucciones complicadas. A veces se enfoca toda la atención en las discapacidades del niño, lo cual puede reducir su autoestimación; por lo tanto, es importante aumentar las oportunidades para el éxito y llevar hasta el máximo las potencialidades del niño.

Recursos

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22 South Washington Street
Park Ridge, IL 60068
(708) 692-2740

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Para mayor información contacte a NICHCY.

Teacher alert, I. (1991). In B. Pieper (Ed.), *Traumatic Brain Injury: What the teacher needs to know.* Albany, NY: New York State Head Injury Association.

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TEACHER ALERT, I

Head Injury? Difficulty at School?
The Two May Be Related!

Children who have sustained even "mild" head injury, often experience learning or behavioral changes which may last for various lengths of time. Further, there is not a great deal of research on mild head injury as experienced by children. In general, it is assumed that the kinds of problems which are well documented for adults will be similar for children. In the past, some experts had expressed opinions that children may be somewhat more likely to "recover" more completely or that symptoms may resolve more quickly. Others have postulated that a better outcome may be expected when the level of knowledge and skills is well developed. There is no definitive answer. There seems to be general agreement, however, **that teachers can be invaluable in identifying and supporting children who have difficulties relating to traumatic injury to the brain.**

Some Complaints Teachers Might Hear:

* dizziness
* headache
* feeling tired
* can't see right
* can't remember

Some Behaviors Teachers Might Notice:

* attention deficiency/failure to sustain concentration and or/activity
* poor short-term memory (literally not able to "remember from one minute or day to the next")
* more time is needed to process information and respond to questions
* tiredness, especially after tasks which involve concentration and continuous attention
* excuses to avoid such tasks or activities
* anxiety (may show up as fast, agitated speech, ie.)
* emotional swings and disinhibition (may include giggling, laughing, crying inappropriately and/or talking out of turn, etc.)
* an undesirable change in peer relationships (subtle behavioral changes may be noticed first by other students; isolation or teasing often follow.)
* a changed attitude or performance from pre-injury levels

New York State Head Injury Association
855 Central Avenue
Albany, NY 12206
(800) 228-8201

Appendix C

Physical Facilities and Planning Checklist for Schools. (1992). In M. Mira, B. Tucker, & J. Tyler (Eds.), *Traumatic Brain Injury in children and adolescents* (pp.101 - 103). Austin: PRO-ED.

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APPENDIX B
Physical Facilities and Planning Checklist for Schools

Classroom and Halls

_____ Are floors of nonslip material?

_____ Are water fountains located on each floor?

Does the student:

_____ Have to change classes?

_____ Have to change levels? (Specify appropriate options—elevator, ramps, stairs with handrails.)

_____ Need to be dismissed early to avoid hall traffic?

_____ Participate in recess?

_____ Need a rest period at school? (Specify length and location.)

_____ Carry and manage his or her own books? (Specify person who assists.)

_____ Require preferential seating?

Restroom

Does the student:

_____ Need assistance in caring for bowel/bladder needs? (Specify appropriate procedures and person who assists.)

_____ Have an accessible, private place available for toileting?

_____ Have bowel/bladder accidents? (Who assists? Where can extra clothing be kept at school?)

_____ Need help with clothing?

_____ Need help with physical access to toilet?

_____ Need adaptive equipment (e.g., raised toilet seat, grab bars)?

_____ Have adequate time for attending to toileting needs?

Cafeteria

Does the student:

_____ Have access to the cafeteria?

_____ Have a special diet or diet supplement? (Specify diet restrictons. Specify who supplies special foods.)

_____ Have ability to manage food tray and eat independently? (Specify person who assists and the needed adaptive eating equipment.)

Gym

Does the student:

_____ Have ability to participate in physical education classes?

_____ Need adaptive physical education?

_____ Need modified sports equipment?

School/Student Awareness

_____ Have all appropriate school personnel been briefed or trained regarding the student's medical condition and needs?

_____ Have classmates and other peers been informed or trained about medical or behavior needs?

_____ Have emergency procedures been defined? Tested?

Does the student:

_____ Have an adult advocate at school?

_____ Exhibit behavior that might be dangerous to himself/herself or others?

Medical

Does the student:

_____ Take medicine at school? (Specify procedures, storage location, person who administers dosage.)

_____ Take medication producing side effects?

_____ Take medication that affects school performance?

_____ Have a history of or current episodes of seizures? (Specify personnel and procedures trained to intervene.)

_____ Wear braces or splints, or use assistance for walking?

_____ Need humidifying/suction or other equipment for trachea tube care?

Equipment

Does the student:

____ Need other adaptive equipment at school?
- _____ Computer, adaptive hardware, adaptive software
- _____ Typewriter, braillewriter
- _____ Adaptive seating: seat insert, lap tray, standing table
- _____ Augmentative communication: communication board, headstick, mouthstick, other
- _____ Adjustable desktop
- _____ Special paper: wide spaced, raised lines, colored lines
- _____ Special pencils, pen
- _____ Squeeze scissors

Transportation and Parking

_____ Are walking surfaces between bus and building of nonslip material?

_____ Are curb cuts between bus and building conveniently located?

_____ Are there obstacles (manhole covers, ventilation grates) between parking lot and school building?

_____ Has transportation facility been informed of schedule, and where to pick up and drop off student?

_____ Who accompanies student on bus?

Does the student:

_____ Use regular bus service?

_____ Use alternative transportation? (Specify alternative.)

_____ Need special transportation? (Specify needs—hydraulic chair lift, preferential parking.)

Checklist for School Reentry. (1992). In M. Mira, B. Tucker, & J. Tyler (Eds.), *Traumatic Brain Injury in children and adolescents* (pp. 105 - 107). Austin: PRO-ED.

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APPENDIX C
Checklist for School Reentry

Things To Do During the Acute Care Phase

Step 1

Rehabilitation medicine consultation with hospital psychology and/or education departments for psychological/ neuropsychological testing and education evaluation and planning assistance.

Step 2

Psychology/education personnel from the hospital review student/ patient's chart, visit patient and family, and check patient and chart daily to determine readiness for appropriate standardized tests and informal assessment.

_____ Get appropriate consent forms signed by parents

_____ Exchange information with school
_____ Include school attendance, achievement, and anecdotal records
_____ Send hospital records that are relevant to future education planning and programming

_____ Schedule first testing session if appropriate

_____ Give family an information packet with materials to inform them of educational needs of students with TBI and support group contacts

_____ Arrange to videotape student in therapy sessions (tapes may be edited and used later by parents or teachers to facilitate school reentry or document progress)

Step 3

Someone from the hospital should telephone or visit school after parent signs consent forms.

_____ Discuss student's current condition and estimated time until hospital release

_____ Discuss arrangements for homebound teaching, if appropriate

_____ Discuss tentative sequence of events for school reentry, techniques for managing reentry, and resources that may be needed

_____ Schedule school representatives' hospital visit with student; also schedule time for them to meet physicians and rehabilitation therapists

_____ Inform school personnel of dates, times, and locations of hospital team meetings and planning conferences; make arrangements for their attendance

Step 4

_____ Arrange a time and date to conduct inservice for teachers and support personnel; explain considerations in reentry planning

Step 5

Request a written summary for the school

Summary should describe the student's injury, course of treatment and recovery, and recommendations for meeting the student's education needs by modifying the education program and school environment.

Recommendations may include:

_____ School-based occupational, physical, or speech therapy

_____ Counseling—peer group, academic, behavioral, vocational

_____ Planning for emergencies—physical or behavioral problems

_____ Medication and dosage schedules

_____ Transportation

_____ Equipment—wheelchair, oxygen, augmentative communication

_____ Adaptive physical education

_____ Ways to promote positive self-image and peer interaction

_____ Ways to manage apathy, impulsivity, disinhibition, altered judgment

_____ Ways to minimize family stress

_____ Ways to capitalize on relative academic strengths

_____ Ways to minimize or remediate relative academic weaknesses

_____ Ways to increase attention, concentration, organization

_____ Evaluation/assessment intervals

_____ Timing for team meetings to discuss progress—when to monitor, evaluate, and reprogram

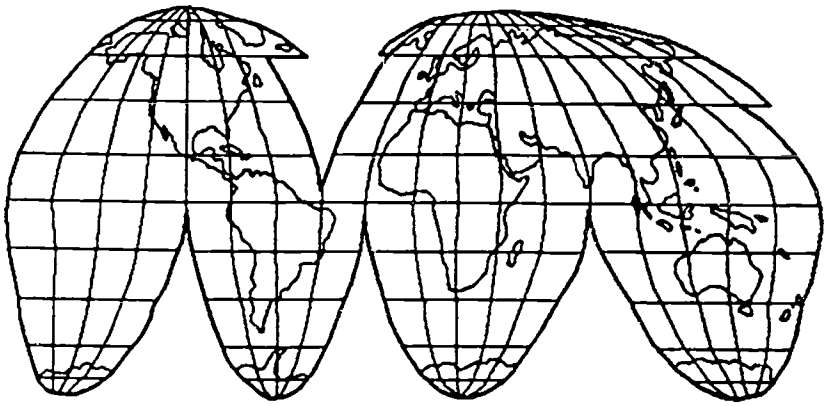
_____ School's liaison with other agencies—vocational rehabilitation, social services, hospital, rehabilitation physicians, community support services

_____ Most appropriate educational service delivery option—resource, self-contained, mainstream, homebound, shortened school day

_____ Inservice program for school personnel or resources for obtaining inservice training

Tacoma Brain Injury Re-entry Team. (1994). *Welcome to a new world.* Tacoma: Tacoma Public Schools.

WELCOME TO A NEW WORLD



A PRESENTATION BY:

TRAUMATIC BRAIN INJURY RE-ENTRY TEAM

TACOMA PUBLIC SCHOOLS

TRAUMATIC BRAIN INJURY RE-ENTRY TEAM

TACOMA PUBLIC SCHOOLS

The Tacoma Public Schools' Traumatic Brain Injury Re-Entry Team has been established to focus on the unique needs of school aged youth who have had traumatic brain injuries. The team is made up of school district personnel from the following disciplines: administration, classroom instruction, psychology, physical therapy, occupational therapy, communication disorders, social work and transition. Each discipline brings expertise to the team which allows for the development of an educational strategy which best fits the needs of the individual student.

The team participates in staffings with personnel from medical facilities, formulating plans for the student to re-enter the school system, consulting with serving schools in developing and implementing the IEP goals, and re-evaluating the ever-changing needs of the students. Techniques and strategies have been developed to assist students and their families make the transition from medical facilities to schools.

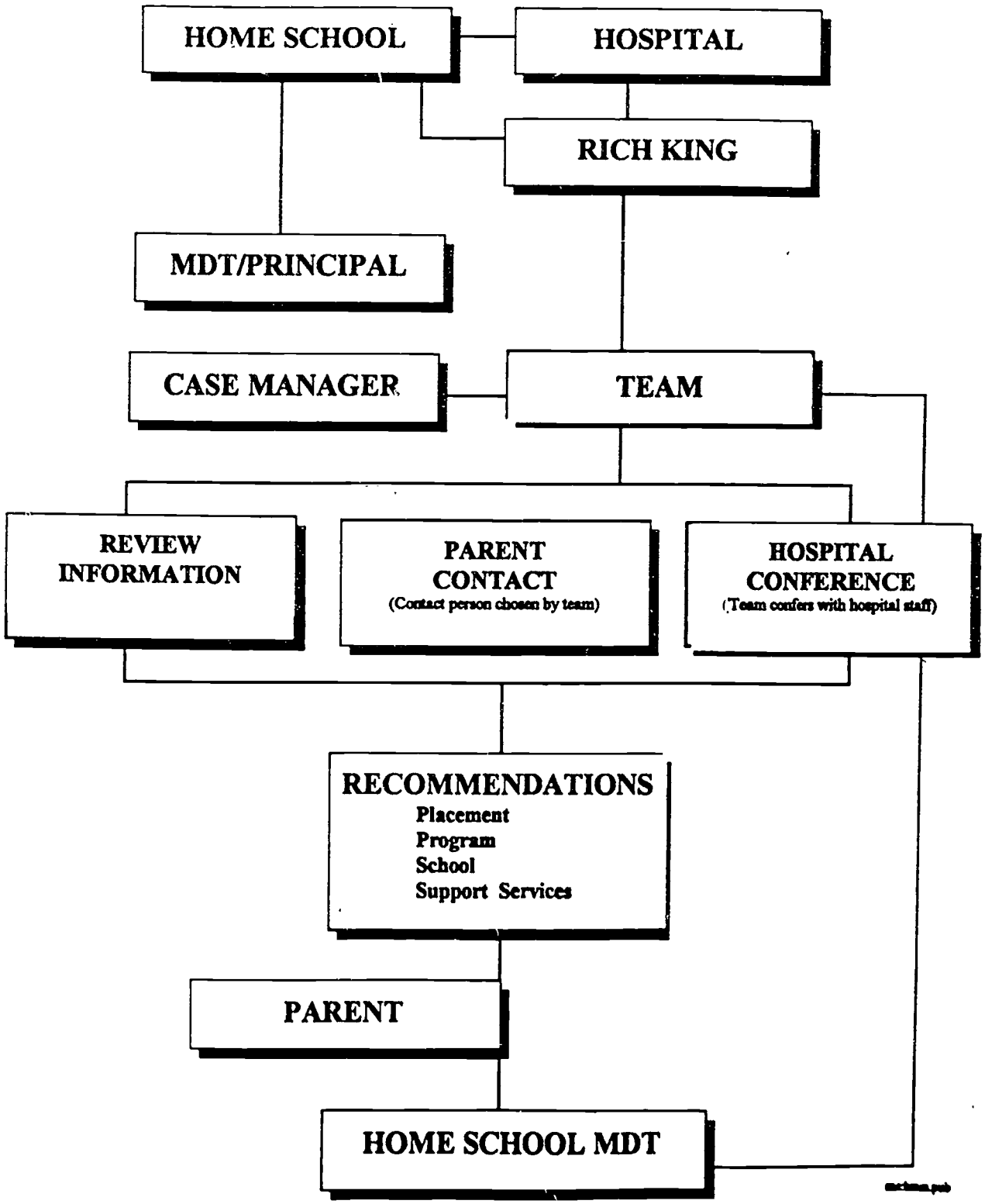
An intake process has been developed to assist the team in collecting pertinent information for the design of an appropriate program and placement for the student. This information is used to determine options for the student which may include: complete integration into his/her home school with consultation services from the team, complete integration into the typical school program, shortened days, support services, or special education support.

The team serves students whose residual effects from their injury range from mild to severe. These students enter the school system from hospitals, care facilities and their family homes. The individual student presents a unique set of issues which are addressed in a variety of ways. The kinds of services vary from consultation to direct instruction and therapy. To date, the team has provided service for twenty-five students in the past six years.

For further information contact:

Richard C. King
Program Administrator
Special Education
Tacoma Public Schools
(206) 596-1054

Tacoma Public Schools
Traumatic Brain Injury Team
Flow Chart



PHASES OF RE-ENTRY INTO SCHOOLS

PHASE 1:

- Hospital staffing - information gathering
- Development of plan to integrate into school setting

PHASE 2:

- Entry into school setting
- Implementation of plan
  - classes/therapies
  - re-evaluation of plan
- On-going education and integration into the educational setting

PHASE 3:

- Community integration
  - community access/leisure activities
  - work experience
  - work training
- Post-secondary schooling
- Residential options

Q: Who do you contact in the school district when a student has had a head injury and needs to return to school?

A: In most school districts, the contact person would be the Special Education Administrator or his/her designee. In some instances the school principal or school nurse may be the first to know of the injury, but it is important that the Special Education Administrator be contacted so support services can be provided to the student at the time of re-entry into the schools.

In the Tacoma School District, the contact person is:

Richard C. King
Program Administrator
Special Education
(206) 596-1054

Q: What resources are available in the school district?

A: School districts should be able to provide specially designed educational programs to fit the needs of the student. This program may include specific support services designed to help the student be successful in the educational environment. These needs are identified through a process of referral, review of pertinent information (including medical, pre-injury school records, psychological reports, etc.) assessment and a decision of the multidisciplinary team (MDT).

Q: What is different in the expectations of the hospital environment and the school environment?

A: The hospital environment is a sheltered environment for the person who has sustained a brain injury - uncrowded hallways, one to one therapy, choices are made for the patient as to appointments, and so on. The services provided in this environment are designed to be rehabilitative in nature, and are often brought to the patient.

The school environment, on the other hand, is less sheltered, more confusing, and is focused on education rather than rehabilitation. The student is expected to function in an environment where there are many other students, longer days, crowded hallways, recess time, bus riding, decision making and expectations that they can change and adapt rapidly throughout their schedule. Accommodations such as shortened day, different class passing times, classes with fewer students, etc. can make the re-entry into the school setting a little easier.

For some students, the two systems may overlap. Education personnel may go to the hospital while the student is still an inpatient and provide educational services, and after the student returns to school, they may receive medical services as an outpatient.

Q: What kind of community resources are available for students and families?

A: There are many supports available for persons who have sustained a brain injury and their families. The most common are Division of Developmental Disabilities (DDD), Division of Vocational Rehabilitation (DVR), and Supplemental Security Income (SSI). Some of these agencies (DDD and DVR) are limited in their services by funding, and therefore, must be pursued as soon as possible after the injury.

Support groups for the person who has sustained the brain injury, as well as their families, are available in many communities.

Washington State Head Injury Foundation and the National Head Injury Foundation are excellent resources for information.

Parents Are Vital in Education (PAVE) is an excellent resource for supports in working with and understanding the school system.

Q: Who are the most important people in helping the student be successful in the school environment?

A: The people who are the most important in making the transition from the hospital to the school, then from the schools into the community are the **student and their family.** Others can play important roles in helping the person with the brain injury, but the constants in the person's life are their families and themselves. It is important for support people to remember this and to assist in the development of advocacy skills for both the families and the individual.

MATTERS TO CONSIDER

- Letter to parents from the District coordinator offering direct services and/or consultation upon notification of student's injury.

- Assign team member to follow up on intake information, parent contacts, hospital contacts, etc.

- Assure that when scheduling is done with the student, socialization opportunities are taken into account. (i.e. peer tutors, non-academic courses, etc.)

- Develop a notebook for the student and their family which would include:

  community resources
  record of therapy services and treatments
  types of classes taken
  opportunities offered for integration
  opportunities offered for community access
  etc.

- Help the student and their family structure their entire day, not just the time in which the student is in school.

- Be prepared to help the families adjust to the differences in their child, and accommodate for these differences in the home and community

- Ensure parent involvement throughout the process

- Help the families understand the Special Education world

  due process
  services
  terms
  etc.

- Train students and parents in advocacy skills

- Have frequent reality checks with students, parents, and staff

Tacoma Public Schools Traumatic Brain Injury Team

To:
Date:

_____, a student in your _____ period class has recently suffered a traumatic brain injury. She/he is appropriate to be back in school, but may exhibit some of the following symptoms:

drowsiness
poor attention span
confusion
memory loss
difficulty with interpersonal skills
poor coordination
difficulty with listening to and following directions
emotional outbursts
inappropriate language
vision problems
extreme headaches
handwriting difficulties

Please contact _____ if any of these behaviors are of concern to you, or if you would like more information about head injuries or this students.

Thank You!!!

Tacoma Public Schools
Traumatic Brain Injury Team
Intake Data

Student name_____ Respondent_____

Parent name_____ Phone _____

Address_____

Person administering survey _____Date of survey_____

Accident Information:

Date of accident_____

Nature of accident_____

Nature of Injuries_____

_____

_____

Medical Information:

Care Source_____

Doctor_____ Phone_____

Treatment_____

_____

_____

Medication:

Dosage_____ Frequency_____

Dosage_____ Frequency_____

Dosage_____ Frequency_____

Medical Information (cont'd):

Significant Medical History:

Illnesses_____

_____

Injuries_____

_____

Attention Span:

What is the student's attention span like in the following:

directed activities _____minutes

chosen activities _____minutes

Memory:

Does the student have difficulty in recall? (i.e. names, events, etc.)

short term

long term

Can the student follow directions? (check the following):

___one step ___three step

___two step ___four step

Communication:

Does the student speak name clearly? (please comment)_____

_____

How is the volume?_____

Is speech production slow? (please describe) _____

Communication (cont'd):

Is the student having difficulty recalling specific words or phrases? (please list)_____

_____

_____

Self Help:

Does the student initiate self care tasks? (please list)_____

_____

Does the student identify when it is time to bathe?

Eating:

Can the student feed self independently?

Are there any adaptations which are needed? (i.e. cutting meat, special diets, cravings, etc.)

(please list)_____

_____ _____

Does the student have any definite likes and dislikes? (please list)_____

_____

Dressing:

Can the student dress independently?

Can the student do fastenings? (buttons, zippers, etc.)

Does the student choose appropriate clothing? (ie. matching, weather appropriate, etc.)

Bathing:

Can the student prepare for bathing ?(ie. water temperature ok, organize clothing, etc.)

Bathe independently_____ Brush teeth_____ wash hair_____ shave_____

Other(please describe)_____

Self Help (Cont'd)

Toileting:

Can student toilet independently?

What kind of assistance is necessary?_____

_____

How does the student move around your home?

Leisure Time:

How does student spend time at home? (ie. computer games, TV, etc.)_____

_____

How much time in each area?

What are the student's favorite things to do at home or in the community?_____

_____

Sleep Patterns:

How many hours per day does the student sleep?

Which hours of the day does this sleep occur?

Any sleeping problems? (ie. nightmare, awake at night, etc.)_____

_____

Physical Limitations/Abilities:

Adjustment:

Pleas circle each of the behaviors listed below which have been observed at any time since this student received a traumatic brain injury:

denial of limitations nightmares leaving assigned area without permission

refusal to comply with requests excessive eating shortened attention

heightened distractability dizziness swearing or vulgarity

inappropriate sexual behaviors lack of interest in activities

temper outbursts changes in sleep patterns large mood swings

fearful reactions to normal conditions compulsive use of tobacco

misreprentations of facts misappropriation of money or other things

Please describe the approaches you have taken with this student to help him with the behavioral concerns identified above and which have been most effective.

Goals:

What goals do you envision this student accomplishing over the next few months?

Social:

Academic:

Goals (Cont'd)

Self help:

Mobility:

Current/ Stated Prognosis:

Support Services:

If any support services are currently being provided please state the service and list the therapist's name(s) and phone number if available:

Support service	Therapist	Phone

Resources/Reports are available from:

Agency	Address	Key person

Additional information/comments:

TRAUMATIC BRAIN INJURY RE-ENTRY TEAM

Tacoma Public Schools

Members:

RICHARD C. KING
Program Administrator

CAROL BARNETT
Case Manager

CAROL COAR
Psychologist

SALLY KELLY
Communication Disorder Specialist

LIZ SCHROEDEL
Occupational Therapist

SHARON FULTZ
Physical Therapist

AL SORENSON
Physical Therapist

KRIS HIRSCHMANN
Transition Specialist

Issues for consideration in evaluation of needs for students with Traumatic Brain Injury. (1992). In Virginia Department of Education and the Rehabilitation Research and Training Center on Severe Traumatic Brain Injury (p. 19). *Guidelines for Educational Services for Students with Traumatic Brain Injury*. Richmond: Author.

Table 4

Issues for Consideration in Evaluation of Needs for Students with Traumatic Brain Injury

Medical (Physiatrist or Neurologist)
- Neurologic Status (EEG, CT, and neurologic exam)
- Physical limitations (e.g., restrictions from physical education; fatigue)
- Medical Problems (Seizures, motor spasticity, headaches, pain, dizziness or "vertigo")
- Medication needs (e.g., Anticonvulsant, antidepressant, psychostimulant medications)
- Needed Assistive Devices (Augmentative communication, wheelchair, positioning tools, writing board, computer software)

Hearing (Audiologist)
- Partial or total hearing loss in one or both ears
- Discrimination of language in a noisy environment
- Development of a "ringing sound" called tinnitus

Vision (Ophthalmologist)
- Partial or total loss of vision
- Visual "cuts" causing "blind spots" in eyes
- Impaired visual tracking (affecting reading, writing, driving, etc.)
- Visual blurring ("diplopia")

Gross Motor (Physical Therapist)
- Extreme weakness ("paresis") or total paralysis of one or both sides
- Reduced muscle tone ("hypotonia") or rigidity
- Muscle contractions or spasticity
- Poor balance or ataxia

Fine Motor (Occupational Therapist)
- Reduced motor dexterity and tremors impairing cutting, drawing, and writing
- Problems with motor planning ("dyspraxia") impairing dressing or assembly skills
- Problems with written output ("dysgraphia") affecting written communication

Social and Academic History (Social Worker)
- Preinjury student educational attainment, behavior, and family adjustment
- Preinjury student interests, talents, extracurricular participation, and friendships
- Family beliefs and attitudes about student, the injury, and educational needs
- Family stresses, support systems, and needs
- Family perception of student's abilities, adjustment, and home management problems

Personality and Socioemotional Adjustment (Neuropsychologist/Neuropsychiatrist)
- Mood: Aagitated, depressed, anxious, or labile
- Behavior: Immature, insensitive, and inappropriate
- Self-concept: Poor or unrealistic perception of physical, social, and intellectual skill
- Energy level: Hyperactive, lethargic, or both

Adaptive Skills (Social Worker or Evaluator with Appropriate Assessment Training)
- Problems in self-care (dressing, hygiene,feeding)
- Problems in community living skills (e.g., time, money, and safety concepts)
- Problems in classroom or home management
- Problems in socialization (social skills, coping skills, play/leisure interest)

Speech and Language (Speech Pathologist)
- Oral motor dysfunction affecting articulation or swallowing
- Problems understanding or efficiently processing language
- Dysfluent speech or problems retrieving words from memory
- Pragmatic language deficits in conversation, turning-taking, and social "rules"

Neuro/psychological Status (Neuropsychologist)
- Reduced intellectual skills often underestimated by standardized IQ tests
- Distractibility, poor concentration, and poor impulse control ("disinhibition")
- Poor memory affecting encoding, retention, and retrieval of information
- Visual-spatial problems affecting part-whole reasoning, integration, and synthesis
- Impaired judgment, conceptual reasoning, and organizational skills
- Slow processing and output of information affecting performance on timed test

Academic Achievement (Educational Diagnostician)
- Impaired word recognition ("dyslexia") or (more frequently) reading comprehension
- Confusion with math calculations and especially applications ("dyscalculia")
- Poor retention for facts in content-subjects such as history and science
- Errors in mechanics and fluent expression of written language ("dysgraphia")

Vocational Skills (Vocational Specialist or Rehabilitation Counselor)
- Impaired entry level work skills (limited occupational interests, behavior or attitudes interferring with employment, and limited job seeking or interview skills)
- Physical, cognitive, and educational limitations affecting prevocational training
- Limitations in job training or job "keeping" skills necessitating supportive employment

Neuropsychological Assessment Test Battery. (1992). In Virginia Department of Education and the Rehabilitation Research and Training Center on Severe Traumatic Brain Injury (pp. 91 - 94). *Guidelines for Educational Services for Students with Traumatic Brain Injury.* Richmond: Author.

Neuropsychological Assessment Test Battery

The following provides a list of commonly used tests. A brief description is provided for measures used by neuropsychologists or rehabilitation specialists. This list is not exhaustive, and is included for the purpose of education rather than endorsement for use by school personnel. Because of performance variability in structured vs. unstructured setting, observation in the classroom and other school settings provides an excellent supplement to formal evaluation.

Perception/Reception/Discrimination

Halstead Reitan Sensory Perceptual Exam: Screening measure to assess basic ability to identify tactile, auditory, and visual stimulation on left vs. right sides of body

Auditory

Speech-Sounds Perception Test: identifies verbally-presented nonsense words (primarily left temporal lobe)
Seashore Rhythm Test: Discriminates (same/different) rhythmic patterns
Woodcock-Fristoe-Johnson Test of Auditory Discrimination:
Discriminates among phonetically-similar word patterns in quiet and back

Visual Perceptual

Gardner Test of Visual Perceptual Skills: Visual discrimination, closure, and memory
Hooper Visual Organization Test: Ability to recognize fragmented pictures

Tactile

Tactual Performance Test (or Sequin-Goddard Formboard): Assesses tactile form recognition, memory for shapes and spatial location, and psychomotor problem-solving

Motor Functions

Fine Motor Tasks

Dynanometer Test: Grip strength
Finger-Oscillation Test: Speed
Purdue (Sequin) or Grooved Pegboard Task: Psychomotor dexterity
Maze Test: Assesses speed and accuracy in running a stylus through a maze

Perceptual Motor Tasks

Bender Visual Motor Gestalt Test
Beery Developmental Test of Visual Motor Integration

Ray Osterrieth Complex Figure: Figure copy and memory
Target Test: Delayed response in reproducing visual-spatial configurations of increasing complexity.

Fine/Gross Motor Tasks

Peabody Developmental Motor Scales
Battalle Developmental Inventory
Bruininks-Oserataky Test of Motor Proficiency
Riley Motor Problems Inventory: Screening measure

Attention, Vigilance, and Impulse Control

Attention Deficit Disorders Evaluation Scale, Connors Rating Scale: Teacher or parent rated behavior
Gordon Diagnostic System: Computerized task with measures of sustained vigilance, impulsivity, and distractibility
Alternatives: Matching Familiar Figures Test, Continuous Performance Test, and various letter cancellation tasks
Detroit Test of Learning Aptitude (Primary and 3): Attention-enhanced scales
Paced Auditory Serial Addition Test: Serial-addition task to asses rate of information processing and sustained attention

Memory and New Learning

Wide Range Assessment of Memory and Learning: Measures of immediate auditory and visual memory, new learning, and delayed recall
Stanford-Binet (4th Edition): Memory area
Kaufman Assessment Battery for Children, McCarthy Scales of Children's Abilities, and Wechsler Scales: Select subtests
Wechsler Memory Scale (Revised): Measures of immediate auditory and visual memory, new learning, and delayed recall for late adolescents and adults
Ray Auditory Verbal Learning Test: Multiple-trial list-learning task
California Verbal Learning Test
Selective Reminding Test: Multiple-trial list-learning task

Cognition/Intelligence

Bayley Scales of Children's Abilities
McCarthy Scales of Children's Abilities
Wechsler Preschool and Primary Scale of Intelligence (Revised)
Wechsler Intelligence Scale for Children (Third Edition)
Wechsler Adult Intelligence Scale (Revised)
Stanford-Binet Intelligence Scales (Fourth Edition)
Detroit Test of Learning Aptitude (Primary and 3): Assessment of process-oriented functions in conjunction with primary batteries
Kaufman Assessment Battery for Children (in conjunction with primary batteries)

Speech and Language

Test of Language Competence
Token Test for Children
Test of Early Language Development
Test of Language Development
Test of Written Language (Revised)
Test of Adolescent Languages (TOAL-2)
Clinical Evaluation of Language Fundamentals (Revised) (CELF-R)
Test of Auditory Comprehension of Language (Revised)
Assessing Semantic Skills through Everyday Themes (ASSET)
Let's Talk Inventory for Children
Test of Word Finding
The Word Test
The Word Test - Adolescent
One-word Receptive Vocabulary Test (Gardner or PTVF): Word identification
One-word Expressive Vocabulary Test (Gardner or Boston): Confrontative naming
Halstead-Wepman Aphasia Screening Exam: Brief screening measure assessing naming (dysnomia), spelling (spelling dyspraxia), writing (dysgraphia, enunciation (dysarthria), reading (dyslexia), reproduction (constructional dyspraxia), arithmetic (dyscalculia), and comprehension (verbal dyspraxia) (cursory screening tool)
Verbal Fluency Test: Child is required to name as many words beginning with a certain letter or things from a certain category
Menyak Syntactic Measure: Assesses understanding of increasingly syntactic complex sentences/phrases
Children's Word Finding Test: The child is required to determine the meaning of a non-sense word through appreciation of its verbal context

Nonverbal Problem-Solving, Mental Flexibility, and Abstract Reasoning

Color-Form Test: Visual perceptual reasoning and flexibility
Progressive Figures Test: Visual perceptual reasoning and flexibility
Category Test: Assesses nonverbal concept formation, abstraction, mental flexibility and learning
Wisconsin Card Sortin Test: Assesses nonverbal ability to form abstract concepts and shift/ maintain set
Leiter International Performance Scale: Nonverbal cognition (visual spatial, sequential, reasoning, and concept formation)
Trial-Making Test (Parts A and B): Timed measure of problem solving (connecting numbers and number-letter sequences)
Columbia Mental Maturity Scale
Test of Nonverbal Intelligence

Achievement

Basic Achievement Skills Individual Screener
Kaufman Test of Educational Achievement
Peabody Individual Achievement Test (Revised): Nonverbal
Woodcock-Johnson Psycho-Educational Battery (Revised): Tests of achievement
Gray Oral Reading Test
Gates-MacGinitis Reading Test
Stanford Diagnostic Reading Test
Wide Range Achievement Test (Revised, 1 and 2)
KeyMath Diagnostic Arithmetic Test

Adaptive Behavior

Vineland Scales of Adaptive Behavior
Functional Skills Assessment
AAMD Adaptive Behavior Scale
Socioemotional Adjustment

Parent Report: Child (Achenbach) Behavior Checklist, Personality Inventory for Children, and other age- or developmentally-normed rating scales

Teacher Report: Child (Achenbach) Behavior Checklist and other age- or developmentally-normed rating scales

Youth Self-Reported Personality/Adjustment: Clinical or psychiatric problems assessed the Million, Minnesota Multiphasic Personality Inventory, and Youth Self-Report measures; Personality style or self-concept assessed by the Child Personality Questionnaire, High School Personality Questionnaire, Piers Self-Concept Scale, and other developmentally-normed rating scales

Traumatic Brain Injury Checklist. (1992). In Virginia Department of Education and the Rehabilitation Research and Training Center on Severe Traumatic Brain Injury (pp. 60 - 65). *Guidelines for Educational Services for Students with Traumatic Brain Injury.* Richmond: Author.

Traumatic Brain Injury Checklist

Please rate the student's behavior (in comparison to same-age classmates) using the following rating scale:

Not at all
Occasionally
Often
Very Severe & Frequent Problem

Not At All	Occasionally	Often	Very Severe & Frequent Problem	
				A. Orientation and Attention to Activity
				Confused with time (day, date); place (classroom, bathroom, schedule changes); and personal information (birth date, address, phone, schedule)
				Seems "in a fog" or confused
				Stares blankly
				Appears sleepy or to fatigue easily
				Fails to finish things started
				Cannot concentrate or pay attention
				Daydreams or gets lost in thoughts
				Inattentive, easily distracted
				B. Starting, Changing, and Maintaining Activities
				Confused or requires prompts about where, how or when to begin assignment
				Does not know how to initiate or maintain conversation (walks away, etc.)
				Confused or agitated when moving from one activity, place, or group to another
				Stops midtask (math problem, worksheets, story, or conversation)

Not at All	Occasionally	Often	Very Severe & Frequent Problem	
				Unable to stop (perseverates on) inappropriate strategies, topics, or behaviors
				Gives up quickly on challenging tasks
				C. Taking in and Retaining Information
				Forgets things that happened even the same day
				Problems learning new concepts, facts, or information
				Cannot remember simple instructions or rules
				Forgets classroom materials, assignments, and deadlines
				Forgets information learned from day to day (does well on quizzes, but fails tests covering several weeks of learning)
				D. Language Comprehension and Expression
				Confused with idioms ("climbing the walls") or slang
				Unable to recall word meaning or altered meaning (homonym or homographs)
				Unable to comprehend or breakdown instructions and request
				Difficulty understanding "Wh" questions
				Difficulty understanding complex or lengthy discussion
				Processes information at a slow pace
				Difficulty finding specific words (may describe but not label)
				Stammers or slurs words
				Difficulty fluently expressing ideas (speech disjointed, stops midsentence)

Not At All	Occasionally	Often	Very Severe & Frequent Problem	
				E. Visual-Perceptual Processing
				Cannot track when reading, skips problems, or neglects a portion of a page of written material
				Orients body or materials in unusual positions when reading or writing
				Gets lost in halls and cannot follow maps or graphs
				Shows left-right confusion
				F. Visual-Motor Skills
				Difficulty copying information from board
				Difficulty with notetaking
				Difficulty with letter formation or spacing
				Slow, inefficient motor output
				Poor motor dexterity (cutting, drawing)
				G. Sequential Processing
				Difficulty with sequential steps of task (getting out materials, turning to page, starting an assignment)
				Confuses the sequence of events or other time-related concepts
				H. Problem-Solving, Reasoning, and Generalization
				Fails to consider alternatives when first attempt fails
				Does not use compensatory strategies (outlining or underlining)
				Problems understanding abstract concepts (color, emotions, math and science)
				Confusion with cause-effect relationships
				Unable to categorize (size, species)

Not At All	Occasionally	Often	Very Severe & Frequent Problem	
				Problems making inferences or drawing conclusions
				Can state facts, but cannot integrate or synthesize information
				Difficulty applying what they know in different or new situations
				I. Organization and planning Skills
				Difficulty breaking down complex tasks (term papers, projects)
				Problems organizing materials
				Problems distinguishing between important and unimportant information
				Difficulty making plans and setting goals
				Difficulty following through with and monitoring plans
				Sets unrealistic goals
				J. Impulse or Self-Control
				Blurts out in class
				Makes unrelated statements or responses
				Acts without thinking (leaves class, throws things, sets off alarms)
				Displays dangerous behavior (runs into street, plays with fire, drives unsafely)
				Disturbs other pupils
				Makes inappropriate or offensive remarks
				Shows compulsive habits (masturbation, nail biting, tapping)
				Hyperactive, out-of-seat behavior
				K. Social Adjustment and Awareness
				Acts immature for age
				Too dependent on adults

Not At All	Occasionally	Often	Very Severe & Frequent Problem	
				Too bossy or submissive with peers
				Peculiar manners and mannerisms (stands too close, interrupts, unusually loud, poor hygiene)
				Fails to understand social humor
				Fails to correctly interpret nonverbal social cues
				Difficulty understanding the feelings and perspective of others
				Does not understand strengths, weaknesses and self presentation
				Does not know when help is required or how to get assistance
				Denies any problems or changes resulting from injury
				L. Emotional Adjustment
				Easily frustrated by tasks or if demands not immediately met
				Becomes argumentative, aggressive, or destructive with little provocation
				Cries or laughs too easily
				Feels worthless or inferior
				Withdrawn, does not get involved with others
				Becomes angry or defensive when confronted with changes resulting from injury
				Apathetic and disinterested in friends or activities
				Makes constant inappropriate sexual comments and gestures
				Unhappy or depressed affect
				Nervous, self-conscious, or anxious behavior

Not At All	Occasionally	Often	Very Severe & Frequent Problem	
				M. Sensorimotor Skills
				Identified problems with smell, taste, touch, hearing or vision
				Problems discriminating sound or hearing against background noise
				Problems with visual acuity, blurring or tracking
				Problems with tactile sensitivity (e.g., cannot type or play an instrument without watching hands)
				Identified problems with oromotor (e.g., swallowing), fine motor or gross motor skills
				Poor sense of body in space (loses balance, negotiating obstacles)
				Motor paralysis or weakness of one or both sides
				Motor rigidity (limited range of motion), spasticity (contractions) and ataxia (erratic movements) circle one
				Impaired dexterity (cutting, writing) or hand tremors
				Difficulty with skilled motor activities (dressing, eating)

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/24	A. Orientation/Attention
/18	B. Task Initiation, Transition, Maintenance
/15	C. Information Encoding and Retention
/27	D. Language Comprehension and Expression
/12	E. Visual-Perceptual Processing
/15	F. Visual-Motor Skills
/6	G. Sequential Processing
/24	H. Problem-Solving, Reasoning & Generalizing
/18	I. Organization and Planning Skills
/24	J. Impulse or Self-Control
/27	K. Social Adjustment and Awareness
/30	L. Emotional Adjustment
/30	M. Sensorimotor Skills

Related services for school-aged children with disabilities. (1991). *NICHCY News Digest, 1* (2), 1 - 23.

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Related Services for School-Aged Children with Disabilities

Volume I, Number 2, 1991

NICHCY
News Digest

National Information Center for Children and Youth with Disabilities
Washington, DC

The Individuals with Disabilities Education Act (IDEA) mandates that "all children with disabilities have available to them...a free appropriate public education which emphasizes special education and related services designed to meet their unique needs..." (Section 601[c]). In accordance with the IDEA and other federal laws, more than 4.5 million children with disabilities across the nation received special education and/or related services in the 1989-90 school year

*This issue of **NEWS DIGEST** focuses upon the provision of related services to school-aged children with disabilities. As defined by federal law, related services are intended to address the individual needs of students with disabilities, in order that they may benefit from their educational program. Occupational and physical therapy, school health services, and special transportation assistance are just some examples of related services that can help eligible students with disabilities participate more fully and successfully in the learning process.*

*This **NEWS DIGEST** provides an overview of the related services enumerated in federal law, with a focus upon those services provided to school-aged children with disabilities. The personnel associated with delivering each service are identified, and their major duties are described. Readers are also given an overview of how related services are typically obtained for students, as well as how school districts deliver, coordinate, and fund the related services they provide. Also discussed is one serious problem confronting school districts, namely a shortage of personnel to deliver related services needed by students. Recent court cases, due process hearings, and the specifics of federal law are mentioned throughout this **NEWS DIGEST**, where relevant, to help readers understand the nature of — and limits to — school districts' responsibilities to provide related services. A list of readings, organizations, and other sources of further information concludes this issue.*

Several important federal laws have been passed in recent years to address the rights and educational needs of children and youth with disabilities. One such law, passed in 1975, is **The Education of All Handicapped Children Act**, otherwise known as **EHA** or Public Law (P.L.) 94-142. Recently reauthorized and renamed the **Individuals with Disabilities Education Act**, or **IDEA** (P.L. 101-476), this law mandates that special education and related service programming be made available to all children and youth with disabilities who require them. The law also makes available federal funds to help state and local governments establish and maintain special education programs for students with disabilities, as well as provide the related services these students need in order to benefit from special education.

But what *are* related services? The IDEA defines "related services" as:

> ...transportation, and such developmental, corrective, and other supportive services (including speech pathology and audiology, psychological services, physical and occupational therapy, recreation, including therapeutic recreation and social work services, and medical and counseling services, including rehabilitation counseling, except that such medical services shall be for diagnostic and evaluation purposes only) as may be required to assist a child with a disability to benefit from special education. [20 U.S.C. Chapter 33, Section 1401(17), 1991]

Although the IDEA has become law, at the time of this writing regulations for the Act have only been issued in proposed form. Final regulations, written to correspond to the changes made to the EHA by the IDEA, will be published after an extensive public comment and review period. Until the final regulations are available to guide implementation of the IDEA, the regulations of its predecessor, the EHA, are being used by school districts to determine how and to whom related services will be delivered. The regulations of the EHA (P.L. 94-142) list thirteen related services that students with disabilities may require to benefit from their special education programs. These are:

- audiology;
- occupational therapy;
- physical therapy;
- psychological services;
- medical services for diagnostic or evaluation purposes only;
- school health services;
- transportation services;
- counseling services;
- speech-language pathology;
- social work services;
- parent counseling and training;
- recreation therapy; and
- early identification and assessment of disabilities in children. [34 *Code of Federal Regulations* (CFR) Section 300.13 (b)(1)-(13), 1988].

Clearly, the regulations define a wide variety of services that must be provided to children and youth with disabilities identified as needing such services to maximize the benefits of their special education. However, the law also states that this long list of services is *not* exhaustive and may include other developmental, corrective,

or support services "as may be required to assist a child with a disability to benefit from special education" *[The Individuals with Disabilities Education Act,* 20 U.S.C. Chapter 33, Section 1401(17)]. It is through this provision in the law that many school districts are providing students with disabilities with assistive technology devices and services. Furthermore, as states respond to the requirements of federal law, many have legislated their own related service requirements, which may include services beyond those specified in federal law. For example, some states also include mobility training, dance therapy, and artistic and cultural programs as related services that should be provided as necessary to help a student with a disability benefit from his or her special education program.

Because states are required to provide the related services that are necessary for each individual student with a disability to benefit from his or her special education, related services can be quite unique. An example of this exists in the 1981 case of *Espino v. Besteiro*. As a result of an automobile accident, the student in question could no longer function in a classroom that was not temperature-controlled. Initially, the school system met this student's need by providing him with a portable cubicle that was air conditioned. However, the court ruled that, in order for the student to benefit from special education, air conditioning qualified as a related service and ordered the school system to air condition the entire classroom. The cubicle was not satisfactory, because it did not permit the child to fully interact with the teacher and his classmates (Esterson & Bluth, 1987).

Although related services can be quite expensive, school districts may not charge families of students with disabilities for the cost of the services. Just as special and regular education must be provided to a student with a disability at no cost to the parent or guardian, so, too, must related services. As a result of federal law, it is the state's responsibility to provide a *free*, appropriate public education to all students with disabilities, and that includes any related services necessary to ensure they benefit from their education.

Under the IDEA, P.L. 101-476, the student must be enrolled in special education to be considered eligible for related services. However, there is another federal law — **the Rehabilitation Act of 1973** (P.L. 93-112) — that, in many cases, broadens a student's eligibility for related services. The implications of this law will be discussed later in this ***NEWS DIGEST*** (see the section entitled "Related Services under Section 504" on page 8). First, however, let us take a look at examples of related services and who is typically responsible for providing each one.

What Are Some Examples of Related Services and Who Provides Them?

Perhaps the best way to develop an understanding of what related services are is to take a look at the types of personnel who are involved in the delivery of services and what responsibilities each of these people typically has in the process. Given the range and diversity of disabilities, this list is quite lengthy. Therefore, the information presented about each related service is intended only as an introduction to that service and the personnel associated with its delivery. It is not the intent of this document, just as it is not the intent of the law, to exhaustively describe each related service. Many variations in service delivery are possible. Readers are encouraged to make use of the resources listed at the end of this ***NEWS DIGEST*** to find out more about the related services of relevance to them. (Early identification and assessment of disabilities in children is not discussed in this ***NEWS DIGEST***, because it falls outside of this document's focus on related services for school-aged children.) It is important to read about all the services and personnel in order to know what related services are most commonly provided to students with disabilities and their families.

Audiology Services are generally provided by audiologists who screen, assess, and identify children with hearing loss. Additionally, they:

- determine the range, nature, and degree of the hearing loss;
- make referrals for medical or other professional attention for the habilitation of hearing;
- provide language habilitation, auditory training, speech reading (lip reading), speech conservation, and other programs;
- determine the child's need for group or individual amplification, select and fit an appropriate hearing aid, and evaluate the effectiveness of amplication.

Many school systems do not have the diagnostic facilities necessary to assess the extent of a student's hearing loss, and so they refer students in need to a clinical setting, such as a hospital. Based on the results of the hearing assessment, related services are then provided by school-based audiologists or, in school systems that do not employ audiologists, by other professionals such as speech pathologists or educators (Friedrich, 1987).

Occupational Therapy is provided by therapists who concentrate upon assessing and treating children with disabilities that impair their daily life functioning. Areas of daily life functioning upon which an occupational therapist might focus are:

- activities of daily living, such as eating and dressing;
- school and work skills, such as writing, using scissors, managing books and papers, and sitting effectively in class; and
- play/leisure skills, such as participating in art or physical education class or playing with children at recess.

When occupational therapy is provided as a related service, it is meant to enhance a student's ability to function in an educational program. By focusing upon the skills of daily living, occupational therapists can often help individual students to function in the least restrictive environment. Generally, occupational therapists:

- provide treatment to strengthen and develop fine motor functions;
- focus on treatment of the small muscles, primarily those of the face, upper trunk, arms, and hands; and
- improve the student's ability to perform tasks necessary for independent functioning, such as chewing, swallowing, placement of the tongue and mouth for speech formation, eye-hand coordination, and manual dexterity.

Physical Therapy is provided to a child or youth with a disability following referral from a physician and, in some states, from school nurses, teachers, occupational therapists, and other professionals. Physical therapists:

- provide treatment to increase muscle strength, mobility, and endurance;
- focus on gross motor skills that rely on the large muscles of the body involved in physical movement and range of motion;
- help to improve the student's posture, gait, and body awareness; and
- monitor the function, fit, and proper use of mobility aids and devices.

In relation to special education, physical therapists are primarily concerned with developing and enhancing the physical potential of students with disabilities, so that they can achieve maximum independence and function in all their educational activities (S. Esterson, 1987).

Psychological Services are also delivered as a related service when necessary to help students with disabilities benefit from their education. Often, the potential need of a child with a disability for psychological services is raised during an Individualized Education Program (IEP) meeting of teachers, school personnel, and parents. Members of the IEP team may have noticed that a student has become withdrawn and that his or her grades have dropped. Or parents may be concerned that their child is reading far below his grade level and want to know if he has a learning disability. School psychologists, then, become responsible for delivering psychological services. Some of their primary duties are to:

- administer and interpret psychological and educational tests and other assessment procedures to determine if, indeed, the student has a disability;
- obtain, integrate, and interpret information about a student's behavior and conditions for learning. Sources of information may include observations of the student and interviews with teachers, parents, and the student;
- consult with school staff and assist in planning an educational program to meet a student's special needs, as indicated by psychological tests, interviews, and evaluations of behavior; and
- plan and manage programs to provide psychological services, including counseling for students and parents.

It is important to know that, by law, no single assessment procedure can be used as "the sole criterion for determining an appropriate educational program for a child" *(Code of Federal Regulations [CFR]: Title 34: Education: Part 300.532,* 1988). The anticipated regulations for the IDEA are not expected to change this approach to student assessment. One of the school psychologist's most challenging duties, then, is to gather information about the student from a variety of sources and interpret that information, so that an educational program appropriate to the needs of the student can be developed.

Medical Services are considered a related service only under specific conditions. By definition, medical services:

- are provided by a licensed physician to diagnose a child's disability, determine the need for special education, and determine the type and extent of related services that may be needed; and
- are permitted for diagnostic reasons, but do *not* include direct, ongoing medical treatment by a physician.

Just how far does a school system's legal requirement to provide medically-related services go? This has become quite an area of controversy as schools enroll and place students with severe and often life-threatening disabilities. Do the constant medical needs of these students qualify as supportive services a school is obligated to provide or as ongoing medical treatment, which is specifically excluded as a related service?

"The more medically sophisticated the decisions about how to treat the child, the more (the medical) service is excluded and the school's obligation disappears."

Decisions can only be made on a case by case, student by student basis. However, the trend emerging from recent court cases appears to be:

- If the supportive service must be performed by a licensed physician and is not for the purpose of evaluation or diagnosis, the school is not obligated to provide it.
- If the service can be provided by a l..y person, such as the teacher, with minimal training, the school must provide it.
- When the service requires some degree of medical insight, such as what to do when an emergency arises, then court decisions can go either way. "The more medically sophisticated the decisions about how to treat the child, the more that service is excluded and the school's obligation disappears" (McKee & Barbe, 1990, p. 199).

School Health Services are necessary, because many children and youth with disabilities would be unable to attend a day of school without supportive health care. Health services are typically provided by a qualified school nurse or a specifically trained nonmedical person who is supervised by a qualified nurse. Some of the health services that school nurses or other qualified personnel provide to students with disabilities include:

- special feedings
- clean intermittent catheterization
- suctioning
- administering medications
- planning for the safety of a student in school, and
- ensuring that care is given in the classroom to prevent injury (e.g., changing a student's position frequently to prevent pressure sores) (Black & Dorsett, 1987).

A joint task force of members and staff of four associations — the American Federation of Teachers, the Council for Exceptional Children, the National Association of School Nurses, Inc., and the National Education Association — recently released detailed guidelines to help administrators, health care providers, and educators provide health services to children with special health care needs (The Joint Task Force for the Management of Children with Special Health Needs, 1990). The guidelines list "66 special health care procedures that some children may need to have provided in educational settings," as well as "the persons qualified to perform each of the procedures, who should preferably perform the procedures, and the circumstances under which these persons would be deemed qualified" (p. 9).

The same controversy that is coming to light about medical services is surfacing in regard to school health services. How far does the school's obligation to provide these services go? In the case of *Bevin H. v. Wright* (1987), the court decided that the school district was not responsible for providing a nurse to monitor Bevin's condition and assist her because of the intensive nature of her need. Other courts had found that schools *were* responsible for providing nursing care, but the students involved in those cases only required intermittent nursing care that could be provided by the school nurse, leaving the nurse free to care for other students. The "private duty" service that Bevin required distinguished her case from others previously heard. Thus, the court stated that placing the burden of the services Bevin required "on the school district in the guise of 'related services' does not appear to be consistent with the spirit of the Act and the regulations" (*Bevin H. v. Wright, 1987-88 Education of the Handicapped Law Report* [*EHLR*] DEC. 559:122, as cited in "Related Services: Daily Nursing Care", 1987, p. 3).

Transportation Services are provided to those students who need special assistance because of their disability or the location of the school relative to their home. Not all students with disabilities are eligible to receive specialized transportation services. Many are able to use the same transportation that students without disabilities use to get to school. However, for those who need special assistance, the school district must:

- provide travel to and from school and between schools;
- provide travel in and around school buildings; and
- provide specialized equipment (such as special or adapted buses, lifts, and ramps), if required to provide special transportation for a child with disabilities.

Most school systems have written guidelines to help make decisions about transportation services consistent from student to student. To be in compliance with the IDEA, a school district cannot require the families of students with disabilities to assume any portion of the costs of those transportation services deemed necessary to permit the students to benefit from their education.

Counseling Services are typically provided by school counselors who work with students to develop their career awareness, to improve their understanding of self, and to improve their behavioral adjustment and control skills. This, in turn, makes students with disabilities better able to participate in their educational program. In many schools, the counselor may also perform the functions of school psychologists (described above under *Psychological Services*). Additionally, school counselors may:

- identify and refer students who may be eligible for special education;

- secure parental permission for referrals;
- provide advice concerning a student's level of functioning, affective needs, and appropriateness of the IEP;
- provide student guidance and counseling in keeping with the IEP; and
- provide supportive counseling for parents.

Speech-Language Pathology is a service provided by speech-language pathologists to address the needs of children and youth with communication disabilities, such as stuttering and impairments in speech, language, or voice. Typically, speech-language pathologists:

- screen, identify, assess, and diagnose disorders of fluency, language, articulation, voice, and oral-pharyngeal function, and cognitive/communication disorders;
- provide speech and language services for the habilitation or prevention of communication disorders, including augmentative and alternative communication systems; and
- refer the student for medical or other professional attention necessary for the habilitation of speech or language disorders.

It should be noted that a student with a speech or language impairment does not necessarily have to be manifesting academic problems in order to be considered eligible to receive related services under the IDEA. Effective oral communication is regarded as a skill basic to academic performance (Applestein, 1987).

Social Work Services are provided in order to address the whole welfare of the student with a disability - his or her life at home, in school, and in the community. Historically, social workers have been used in schools as early as 1913. The need for their services arose from "recognition of the need to consider factors beyond the schools that may be affecting a child's educational performance" (Tabb, 1987, p. 113). Problems at home or in the community can adversely affect a student's performance at school, as can a student's attitudes or behaviors in school. Social work services may become necessary in order to help the student maximize benefit from the educational program.

In today's society, qualified school social workers have completed a two-year master's degree program in social work and generally have field experience obtained through placement in a public or private facility, where they worked under supervision. Their duties within schools typically include:

- preparing a social or developmental history of a student with a disability;
- providing group or individual counseling to the student and family;
- working with the problems in a student's living situation (home, school, and community) that are affecting the student's adjustment in school; and
- mobilizing school and community resources to enable the student to benefit from his or her educational program.

To develop an insightful social or developmental history of a student with a disability requires the school social worker to interact with both the student and the family. This allows the social worker to assess how family dynamics and the home environment are influencing the student's learning and behavior patterns. This information is useful for determining the student's educational placement and program, and also serves as a check against inappropriate labeling of a student because of test scores and school behavior. Through interactions with the family, the social worker may identify cultural or language differences that need to be taken into consideration as well (Tabb, 1987).

"Social Work Services are provided in order to address the whole welfare of the student with a disability - his or her life at home, in school, and in the community."

Parent Counseling and Training is an important related service, because it addresses the needs of the parents and the vital role they play in the lives of their children. The family is the "most powerful agent of change in the life of a child" (Blumberg, 1987, p. 70). The parents of a child or youth with a disability may have great need for counseling and training in order to understand their child's disability and how it may affect development. When necessary to help the child or youth with a disability benefit from the educational program, school counselors can:

- assist parents in understanding the special needs of their child;
- provide parents with information about child development; and
- provide parents with referrals to parent support groups, financial assistance resources, and professionals outside the school system.

Recreation Therapy is included as a related service, because all children, with or without disabilities, need to learn how to use their leisure and recreation time constructively. For those students with disabilities who are judged to require recreation therapy in order to benefit from special education, the therapy can serve to improve socialization skills, as well as eye-hand coordination and physical, cognitive, or language development. In the case of children with severe disabilities, "recreation activities are necessary for the purpose of initiating greater pride and independence" (M.M. Esterson, 1987,

p. 99). To this end, recreation therapists:

- assess the student's leisure capacities and functions;
- provide therapy to remediate functional difficulties that limit involvement in leisure activities;
- provide leisure education for learning the skills, knowledge, and attitudes related to leisure involvement; and
- help the student to participate in recreation, based on the student's need for assistance and/or adapted recreation equipment.

"Consideration of a child's need for assistive technology must occur on a case-by-case basis in connection with the development of a child's . . . IEP."

Assistive Technology Devices and Services are not specifically listed in the law as a related service but are often provided as "other corrective or support services" necessary to help students with disabilities benefit from their education. The provision of assistive technology devices and services has changed over the years as technology has been developed and applied to the needs of individuals with disabilities. The EHA (P.L. 94-142) mentions that providing "related aids and services" may be necessary to help a student maximize the benefits of his or her educational program. The early interpretation of what qualified as a permissible related aid was controversial. "Generally, equipment such as glasses, wheelchairs, and hearing aids have been considered to be outside of the school districts' responsibility because these were individually prescribed and were used at home as well as during school" ("Districts Must Provide", 1990, p. 76).

As assistive technology has boomed, however, the scope of this related service has expanded. In 1988, Congress passed the **Technology-Related Assistance for Individuals with Disabilities Act** (P.L. 100-407), recognizing the enormous contribution that assistive technology can make to the lives of individuals with disabilities. The Office of Special Education Programs (OSEP) has issued a policy ruling stating that "consideration of a child's need for assistive technology must occur on a case-by-case basis in connection with the development of a child's individualized education program (IEP)" (Goodman, 16 *EHLR* 1317, OSEP 1990). The OSEP policy letter goes on to say that "assistive technology can be a form of supplementary aid or service utilized to facilitate a child's education in a regular educational environment. Such supplementary aids and services, or modifications to the regular education program, must be included in a child's IEP." Thus, when an IEP of a student with a disability is being developed or reviewed, the school district must assess his or her need for an assistive technology device, determine those devices that will facilitate the student's education, list them in the IEP, and then provide them to the student.

This policy letter, coupled with the passage of the Technology-Related Assistance for Individuals with Disabilities Act of 1988 and the IDEA, is expected to dramatically affect the level of district responsibility for providing related aids, devices, and technology-related services to students with disabilities.

The IDEA defines an assistive technology device as.

> ...any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities. [20 U.S.C. Chapter 33, Section 1401(25)]

The number of assistive technology devices in use across the United States is lengthy, and the list is growing longer by the day. A few examples of such devices are: electronic communication aids, devices that enlarge printed words on a computer screen, speech synthesizers, prosthetic devices, braille writers, and keyboards adapted for fist or foot use.

As more assistive technology devices become available to address the special needs of students with disabilities, districts are confronted with multiple challenges in that they must: (a) identify and acquire technology devices appropriate to the needs of their students with disabilities; (b) train staff in the use of the devices; (c) identify appropriate use of computers, communication devices, and other technology in the classroom; and (d) finance the cost of this related service. Additionally, districts must provide "assistive technology services" to eligible students with disabilities. Assistive technology services are defined by the IDEA as "...any service that directly assists an individual with a disability in the selection, acquisition, or use of an assistive technology device" [20 U.S.C. Chapter 33, Section 1401(26)]. Thus, school districts are also responsible for helping individuals with disabilities to select and acquire an appropriate assistive technology device and train them in its use.

Fortunately, for parents and professionals alike, there are a number of organizations that provide information on the latest developments in assistive technology devices. Some are listed in the resources section of this ***NEWS DIGEST***. Another useful resource is ***NICHCY***'s ***News Digest*** on *Assistive Technology* (1989), available free of charge from NICHCY.

Artistic/Cultural Therapies are specifically mentioned in federal regulations as other "supportive services" and include "artistic and cultural programs, and art, music, and dance therapy, if they are required to assist a handicapped child to benefit from special education"(34 CFR Part 300.13, *Comment*, 1988).

Dance therapy, for example, can develop and promote "good posture, discipline, concentration, coordination, agility, speed, balance, strength, and endurance" (Salyers, 1983). Art therapy provides individuals with disabilities with a means of self-expression and opportunities to expand personal creativity and control. Music therapy is used to foster similar personal growth. Its therapeutic aims are the restoration, maintenance, and improvement of mental and physical health (National Association for Music Therapy, 1988). This type of therapy can affect changes in behavior, social skills, perception, self-esteem, and physical mobility and skills.

Artistic and cultural therapies are designed by art therapists, dance therapists, and music therapists to address the individual needs of students with disabilities. These professionals:

- assess the functioning of individual students;
- design programs appropriate to the needs and abilities of students;
- provide services in which movement or an art form is used in a therapeutic process to further the child's emotional, physical, and/or cognitive development or integration; and
- often act as resource persons for classroom teachers.

School Breakfast and Lunch Program is not a related service specifically listed in the IDEA. The program is discussed in this ***NEWS DIGEST*** because of its importance to those students with disabilities who have special nutritional requirements. Because many students with disabilities *do* have unique nutritional needs, they are unable to participate in the national meal program unless these meals are modified.

School meal programs are administered at the federal level by the United States Department of Agriculture (USDA). USDA reimburses schools for every meal served, at rates that vary according to family income. Children may receive meals free or at a reduced price if their families meet specific income criteria.

Under USDA's Section 504 and child nutrition regulations, schools participating in federal school meal programs are required to make a reasonable effort to provide, *at no extra charge*, special meals to students whose diets are restricted due to their disabilities [7 CFR Section 15b.26(d)(1)].

In order to be eligible for modified meals, a student must present a statement signed by a physician. The statement should include: (a) the disability of the student and how the disability affects the student's diet; (b) the major life activity affected by the disability; and (c) the food(s) to be omitted from the student's diet and those that may be substituted [7 CFR Section 210.10(i)(1) and 7 CFR Section 220.8(f)]. Adjustments to meals may include changing the texture of food, modifying the calories, and substituting different foods for those listed on the school menu (Horsley, 1988).

In a recent floor statement, Senator Bob Dole of Kansas, Senate Republican Leader, expressed concern about the participation in school meal programs by students whose disabilities restrict their diets. Federal regulations, Senator Dole said, "put the burden on parents to request special meals. Yet many parents, school administrators, and teachers do not know these regulations exist" (Dole, 1991).

Thus, parents need to be aware that they are responsible for: (a) requesting modification of their child's meals, if appropriate; and (b) providing the school system with a doctor's statement certifying their child's disability and describing the child's special dietary needs. If officials at the school are not familiar with these regulations, parents should contact their State school food service director, who is usually employed by the State education agency. If parents have further questions or problems, they can contact the Child Nutrition Division of the Food and Nutrition Service of USDA at 3101 Park Center Drive, Alexandria, Virginia 22302 or call (703) 305-2620.

To address the special nutritional needs of students with disabilities, Senator Dole also recommended the following:

- greater coordination between teachers, school food service personnel, and children's health care providers;
- more training of school staff in the area of nutrition and meal modification;
- greater dissemination of the many excellent manuals on special nutrition already available, and

- greater attention to nutritional needs in the development of individual education programs (IEPs). (Dole, 1991)

Because the IEP serves as a communication tool between service providers, parents, and the student with a disability, stating nutrition goals and objectives in the IEP, when appropriate, "will facilitate instruction on dietary needs and compliance" (Horsley, Allen, & White, 1991, p. 56).

Related Services under Section 504

Under the IDEA, a student must be enrolled in special education to be considered eligible for related services. However, as was mentioned in the first section of this ***NEWS DIGEST***, there is another federal law, Section 504 of **the Rehabilitation Act of 1973** (P.L. 93-112), which in many cases broadens a student's eligibility for related services.

The Office for Civil Rights (OCR) is responsible for overseeing compliance with the Section 504 regulations. In order to ensure that the discussion in this section is as accurate as possible, NICHCY asked OCR to examine in detail all information presented here in regards to Section 504. In accordance with OCR's review, then, the following discussion cites extensively from the Section 504 regulations, the basis from which OCR oversees compliance with the law and from which school districts, at times, must make decisions in regards to the eligibility of students to receive related services.

According to Section 504 of the Act, State Education Agencies (SEAs) and Local Education Agencies (LEAs) receiving Federal funds cannot exclude qualified individuals with disabilities from participation in or the benefits of any program or activity offered by the SEA or LEA. Regulations of the Act also specify that a recipient of Federal financial assistance operating a public elementary or secondary education program must provide a free, appropriate public education to each "qualified handicapped person" within its jurisdiction.

"Section 504 does not require a student to be enrolled in special education in order to receive related services."

The Section 504 regulation defines a "handicapped person" as follows:

> (1) "Handicapped persons" means any person who (i) has a physical or mental impairment which substantially limits one or more major life activities; (ii) has a record of such an impairment, or (iii) is regarded as having such an impairment...
> (2)(ii) "Major life activities means functions such as caring for one's self, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working. [34 *Code of Federal Regulations* (CFR) Section 104.3(j), 1988]

Under the Section 504 regulation:

> "Qualified handicapped person" means: ...[w]ith respect to ... elementary [and] secondary ... education services, a handicapped person (i) of an age during which non-handicapped persons are provided such services, (ii) of any age during which it is mandatory under state law to provide such services to handicapped persons, or (iii) to whom a state is required to provide a free appropriate public education under Section 612 of the Education of the Handicapped Act. [34 CFR Section 104.3(k)(2), 1988]

The free appropriate public education must meet the individual needs of students who are "qualified handicapped persons" as adequately as the needs of students without disabilities are met. Such an education, according to the Section 504 regulation, can consist of either regular *or* special education and must include any related aids or services necessary to provide a free appropriate public education designed to meet the individual student's needs. The law also requires that recipients of Federal funds operating public elementary or secondary education programs evaluate any person who needs or is believed to need special education *or* related services because of disability. *Thus, Section 504 does not require a student to be enrolled in special education in order to receive related services.*

The fact that the IDEA and Section 504 of the Rehabilitation Act define eligibility for, and entitlement to, related services in different ways can complicate how a school district decides if a student is eligible for and/or must be provided with services or not. School districts can fulfill the requirements of certain sections of the Section 504 regulation by complying with the EHA (now IDEA) (Daniels, 1988).[1] However, it is

[1] A school district can satisfy the Section 504 regulation's "free appropriate public education" requirement by implementing an IEP developed in accordance with the EHA [34 CFR Section 104.35(b)(2)]. Establishing a procedure consistent with the EHA for periodically reevaluating students who have been provided with special education and related services is one way of complying with the Section 504 regulation's periodic reevaluation requirement [34 CFR Section 104.35(d)]. A school district can comply with the Section 504 regulation's procedural safeguards requirement by complying with Section 615 of the EHA (34 CFR Section 104.36).

possible for a school district to be in violation of the Section 504 regulation while still being in compliance with the IDEA. This can happen when a school district denies services to an individual who has a disability not specified under the IDEA but who is considered "handicapped" under Section 504. For example, there are school districts that have failed to administer medication to students with Attention Deficit Disorder (ADD), because ADD is not listed as a handicapping condition under the IDEA. However, such students may be entitled to have the school district administer medication as a related service under Section 504, if the student meets the Section 504 definition of "handicapped person."

An individualized evaluation would need to be made by a multidisciplinary team to determine whether the student is "handicapped" within the meaning of Section 504; that is, whether the student has an impairment which substantially limits one or more major life activities (e.g., learning). Once it is determined that a student is handicapped within the meaning of Section 504 and meets other applicable eligibility requirements (such as age requirements), public elementary or secondary education programs receiving Federal financial assistance are required by Section 504 to provide a free appropriate public education to that student, without regard to the nature or severity of the individual's disability. The free appropriate public education must include any related aids or services, such as administering medication, that are necessary to meet the individual student's needs.

Because the definition of disability is broader under Section 504 of the Rehabilitation Act than under the IDEA, many parents whose children are ineligible for related services under the IDEA are filing complaints with OCR, alleging that denial of related services denied their children a free appropriate public education. It should be noted that when OCR investigates a complaint, it does so solely on the basis of compliance with the rules and regulations of Section 504. OCR does not make findings of a school district's compliance or noncompliance with the IDEA (Daniels, 1988). In addition, an OCR investigation focuses primarily on the process used to identify, evaluate, and place students with disabilities, rather than on whether the program ultimately chosen by the district was appropriate. As the Appendix to the Section 504 regulation states:

> It is not the intention of [OCR], except in extraordinary circumstances, to review the result of individual placement and other educational decisions, so long as the school district complies with the "process" requirements of this subpart (concerning identification and location, evaluation, and due process procedures). However, [OCR] will place a high priority on investigating cases which may involve exclusion of a child from the education system or a pattern or practice of discriminatory placements or education.

An example of a pattern or practice of discriminatory placements or education is a school district's refusal to provide related services to any students who are ineligible for such services under the IDEA, even if those students are "qualified handicapped persons" under the Section 504 regulation.

Recent investigations have resulted in OCR rulings that individuals who have disabilities not specified in the IDEA are often eligible for related services under Section 504. In addition to ADD, other examples that may be handicapping conditions under Section 504 are: alcohol and drug addiction (although, under 1990 amendments to the Rehabilitation Act, a student who is currently using alcohol or illegal drugs is no longer protected by Section 504 when the school district acts on the basis of such use); communicable diseases such as AIDS, and obesity (Cernosia, 1991; "Georgia Challenges", 1990).

Notice From the Office of Civil Rights: Applicability of Section 504 of the Rehabilitation Act of 1973 to Homeless and Drug-Exposed Children

The Office of Civil Rights (OCR) is concerned about two widespread national problems that may seriously affect our schools. One is the predicament of children whose families are homeless. The other is the plight of children who are born to mothers who have been exposed to drugs. Children who are handicapped in these groups are covered under Section 504 of the Rehabilitation Act of 1973.

Under the Section 504 implementing regulation, recipients of Federal aid operating public elementary or secondary education programs must annually undertake to identify and locate every qualified handicapped person residing in the recipient's jurisdiction who is not receiving a public education. Annually the school system must also take appropriate steps to notify handicapped persons and their parents or guardians of its duty under the Section 504 regulation to provide a free appropriate public education to each qualified handicapped person in its jurisdiction.

Because of its importance, OCR included identification of homeless and drug-exposed student populations for special education and related services as one of the priority educational equity issues in the FY 1991 National Enforcement Strategy. OCR has planned compliance and technical assistance outreach activities in this area during the current fiscal year. Persons needing additional information or technical assistance are urged to contact any of OCR's ten regional offices.

Consistent with these rulings, school districts must determine whether the educational needs of students with such disabilities are being met to the extent that the needs of students without disabilities are met (Daniels, 1988, p. 3).

The IDEA and Section 504 differ in another, important aspect besides their definitions of "disability." The IDEA:

> ...is a federal grant program, authorizing federal funds to states to assist them in the provision of special education and related services to "eligible" students. Section 504 is a civil rights statute, prohibiting discrimination on the basis of handicap. ("Georgia Challenges", 1990, p. 208)

Therefore, although school districts must comply with the regulations of Section 504 if they want to retain Federal financial assistance, they do not receive Federal funds to pay for services provided to students with disabilities under Section 504.

Parents and professionals who are interested in more information about how Section 504 regulations affect the provision of related services should contact any of OCR's regional offices. If you need assistance identifying the regional office nearest you, please contact NICHCY.

How Are Related Services Obtained for Students?

Usually, the need for related services is identified during the process of evaluating a student for special education. Because far-reaching decisions are made based upon the evaluation of a student with a suspected disability, it is useful to know that both the IDEA and Section 504 of the Rehabilitation Act state that decisions about the educational program of a student may not be based solely on the findings of a single evaluation instrument. Rather, data must come from a variety of sources, including "aptitude and achievement tests, teacher recommendations, physical condition, social or cultural background, and adaptive behavior" [34 CFR Section 104.35(c), 1988]. Furthermore, data must be collected in all areas related to the student's suspected disability. This may include, where appropriate, "health, vision, hearing, social and emotional status, general intelligence, academic performance, communicative status, and motor abilities" (Arena, 1989, p. 23). Federal law also requires that the evaluation must be conducted by a multidisciplinary team, including at least one teacher who is knowledgeable in the area of the suspected disability.

The extensive nature of the evaluation process should provide decision-makers with the information they need to determine an appropriate educational program for the student. It also allows them to identify the related services a student will need. At this point, decision-makers — including the parents and, where appropriate, the student — sit down and write an Individualized Education Program (IEP) for the student. The IEP details the educational goals and objectives for the student and lists the related services that are necessary to help the student attain those goals and objectives. It is useful to note that related services personnel are not required to participate in the IEP meeting. However, it is appropriate for them to participate or otherwise take part in IEP development. The written findings and recommendations of related services personnel should become part of the child's evaluation report.

"The IEP...is formulated as a team effort, *based on what the child needs* - not what the school district (local educational agency) can provide" (Arena, 1989, p. 15). Thus, the related services needed by the student *must* be listed in the IEP, regardless of whether the district currently makes the services available. The IEP establishes the genuine need to be met and must describe related services according to:

- the service(s) needed (e.g., occupational therapy)
- the type of service (e.g., direct service to the child; consulting services to teachers or others)
- the type of service provider(s) (e.g., occupational therapist)
- the frequency and duration of the service (e.g., two 45-minute periods per week).

"The IEP details the educational goals and objectives for the student and lists the related services that are necessary to help the student attain those goals and objectives."

The IEP then serves as a written commitment for delivery of services to meet a student's educational needs. The school district must provide all of the services specified in the IEP, in the amount and degree specified. Changes in the amount of services listed in the IEP cannot be made without holding another IEP meeting. However, if there is no change in the overall amount of service, some adjustments in scheduling of services should be possible without the necessity of another IEP meeting.

The above description of the evaluation process, IEP development, and the specification of related services to be delivered to a student with a disability assumes that the student was found eligible for special education and related services. What happens when things don't go so smoothly? For example, the school district may determine, via its evaluation, that the student does not require special education and, thus, is ineligible under the IDEA for

related services. Or perhaps the parents are dissatisfied with the way that related services are being provided to their child or believe that their child needs related services that the school district does not provide or feels are unnecessary. What happens then?

Here are some points parents may want to bear in mind in such situations (Education Law Center, 1985; U.S. Department of Education, 1986):

1. The IDEA enumerates procedural safeguards that school districts must adhere to in the delivery of educational services (see Gerry, 1987). These safeguards establish due process procedures through which parents and children with disabilities can resolve differences with the school district (34 CFR §300.500 - §300.514, 1988). Among the procedures are: the right to an independent evaluation at public expense, the right to an impartial due process hearing, the right to an administrative appeal and impartial review of the evidence, and the right to take civil action.

2. Therefore, if the school district determines that a student with a disability does not require special education and denies that student related services, parents may request that the district pay for an independent evaluation. If the district should refuse this request, parents may ask for a hearing before an impartial hearing officer to resolve this difference.

3. The parents can also decide to pay for the independent evaluation privately. In this case, they should receive a written evaluation report specifying (a) the problem the child has; (b) precisely how that problem affects the child's ability to make progress toward the goals of his or her IEP; (c) recommendations on the type of service needed, the way it should be provided, how often and for how long, and the type of personnel who should deliver the services; and (d) a description of the goals of the related service program that is recommended. The school district must take the results of the private evaluation into account when making a decision about a student's eligibility for related services.

4. Parents may also wish to negotiate with the school district to see if the student is eligible for related services under Section 504 criteria. If parents do not agree with the district's decision, again, they can ask that a hearing officer review the evidence. As a final step, parents can also file a complaint with the regional office of the Office of Civil Rights (OCR). An OCR hearing officer will also review the evidence and decide if the district is obligated to provide the related services.

5. When a student's need for related services is not linked to his or her ability to benefit from special education and is, therefore, not part of the IEP, parents have other options apart from the school system. For example, parents may seek services from rehabilitation organizations, private therapists, medical organizations, clinics, and other agencies.

This latter point may be important for parents to consider when trying to obtain related services for their child with a disability. Although parents *do* have due process rights which they can invoke when differences with the school district arise, they should be aware the problems can often be worked out informally. "Due process can be expensive, time-consuming, and frustrating" (Callanan, 1990, p. 286), so it is certainly worthwhile for parents to try first to resolve problems with the district in a less confrontational way. Many states have alternatives to the formal appeal process, including conciliatory conferences, administrative reviews, and mediation. Flexibility and reasonableness are key factors in working out differences, and compromise on the parts of both the parents and the school district may be necessary. There are many benefits to resolving differences through compromise and mediation. Not only is time saved and the cost of litigation avoided, but the relationship between parents and the school district will remain a working one, where communication is still open, people are still talking, and future decisions are not made impossible by past differences.

How Are Related Services Delivered?

The district decides how the services enumerated in the IEP will be delivered to the student. The district may provide these services through its own personnel resources, but if this is not possible, they may contract with another public or private agency, which then provides the services.

"There must be communication between the IEP team and the related service provider(s) to ensure that services are being delivered as specified and that the student is making progress."

There are two kinds of related services *interventions* offered by schools to meet the range of student needs. These can be defined as follows (Association for Retarded Citizens/Minnesota, 1989, pp. 3-4):

- *Direct Therapy* refers to hands-on interactions between the therapist and the student. These interactions can take place in a variety of settings. The therapist analyzes student responses and uses specific techniques to develop or improve particular skills. The therapist should also monitor the student's performance within the educational environment and consult with teachers and parents on an ongoing basis, so that some strategies can be carried out through indirect means at other times.
- *Indirect Therapy* refers to teaching, consulting with, and directly supervising other team members (including paraprofessionals and parents) so that they can carry out therapeutically-appropriate activities. Trained assistants, such as a certified Occupational Therapy Assistant, are sometimes employed to share in the delivery of related services. Three essentials of indirect intervention are: (a) the intervention procedure is designed by the therapist for an individual student; (b) the therapist has regular opportunities to interact with the student; and (c) the therapist provides ongoing training, follow-up, and support to staff members and parents.

One type of service intervention is not necessarily better than the other. The type of service provided depends upon the student's needs and educational goals, and the skills and availability of school staff. Ellen Siciliano, a Parent Involvement Coordinator for the Pennsylvania Department of Education, Bureau of Special Education, sees a trend toward indirect therapy interventions for some related services. She says:

> Some parents object to this, feeling that their children should have the direct attention of a therapist for all contact hours. My own opinion is that indirect or consultative forms of therapy are useful. When my daughter was in school, a therapist worked with me, so that I could work with my daughter, and this was beneficial. In rural schools, this kind of service may be very important in ensuring that children receive these services. (Siciliano, personal communication, September 20, 1990)

In small and rural districts, often there are not sufficient numbers of eligible students to justify employing a full-time therapist, or requirements across schools in a district may add up to the need for one related service provider. In such cases, the district may employ one specialist to move from school to school, or several districts may use a cooperative approach, pooling their resources to hire personnel who travel among districts to provide services. The term **itinerant services** is used to describe this type of service provision, but it refers to the *deployment* of personnel, not to a specific type of service intervention.

How Are Related Services Coordinated?

The IDEA requires that a multidisciplinary team perform an evaluation of a student to determine his or her eligibility for special education and related services. Likewise, a multidisciplinary team must be involved in any placement decisions. This team generally consists of a representative of the public agency who is qualified to provide or supervise the provision of special education and/or related services, the student's teacher, one or both of the student's parents, the student (where appropriate), individuals whose input is requested by either the parents or the public agency, and a member of the evaluation team who is knowledgeable about how the evaluation was conducted and its findings (Arena, 1989). The student's IEP is developed through the joint efforts of these individuals, and necessary related services are specified.

Obviously, the process of developing an IEP can be complicated, requiring many people to interact and coordinate their efforts. Many school districts appoint a school staff member (such as a teacher, psychologist, or counselor) to act as coordinator or case manager of the IEP process for an individual student or for all children with disabilities in a school. This is not required by law, but it helps the school district manage the complicated task of evaluating students and developing IEPs. The kinds of activities that a coordinator or case manager might do include:

- coordinating the multidisciplinary evaluation;
- collecting and synthesizing evaluation reports and other relevant information that might be needed to the IEP meeting;
- communicating with parents; and
- conducting the IEP meeting (U.S. Department of Education, 1986).

Beyond development, however, there is *implementation* of the IEP. Depending on the nature of the related services to be provided, many other

professionals may become involved on behalf of the student with a disability. This may include one or more therapists, a special educator, classroom teachers, counselors, the school principal, paraprofessionals, and others. These individuals work not only with the child, but also with the family and community resources. Furthermore, there must be communication between the IEP team and the related service provider(s) to ensure that services are being delivered as specified and that the student is making progress. If the student is not progressing as expected, adjustments in his or her program must be made. The IEP team would need to be involved in any such decisions, and the new plan would need to be communicated to the related services personnel.

Thus, it is highly desirable that related services be delivered in educational settings through a team approach. Related services are not to be isolated from the educational program. Rather, they are to be *related* to the educational needs of students (Association for Retarded Citizens/Minnesota, 1989). The interactions of professional staff, consultants, community, and family, brought together in the delivery of related services for a student, underscore the usefulness of a case management approach in which a team leader coordinates and orchestrates services on behalf of the student.

How Are Related Services Funded?

Under P.L. 94-142 and its amendments, including the recently passed IDEA, students with disabilities are entitled to a free appropriate public education. State education agencies are responsible for assuming the costs of that public education, and no costs of implementing the IEP for school-aged students can be passed on to parents or guardians. This includes the provision of related services. Students and their families are entitled to receive these services at no cost to themselves.

Funding of related services, of course, presents schools with an enormous fiscal obligation. While districts receive federal funds through the IDEA to assist them in providing special education programs and related services for students with disabilities, the costs can nonetheless become quite staggering. However, "nowhere in the law is there a provision that could be construed as relieving a school system of its responsibility to provide a free appropriate public education even if sufficient funds...are not available" ("Related Services: Funding and Personnel", 1988, p. 3). Even before the passage of the EHA, the landmark case of *Mills v. Board of Education of the District of Columbia* (1972) affirmed that school districts are responsible for meeting the educational needs of students with disabilities. The school board in *Mills* argued that it could not afford to offer an appropriate education to all its students with disabilities. The court responded that whatever inadequacies existed in the school system could not be allowed to impact more heavily on the exceptional child than on a child without disabilities.

Although courts appear to becoming more aware of the costs involved in providing related services, the tendency is to consider the appropriateness of different educational options and the costs of each, as in the *Clevenger v. Oak Ridge School Board* (1984) case. There, the 6th U.S. Circuit Court of Appeals said, "Cost considerations are only relevant when choosing between several options, all of which are for an "appropriate" education. When only one is appropriate, then there is no choice."

Clearly, a school district's responsibility to students with disabilities is extensive and expensive. What other funding sources are available, besides the IDEA, to pay the costs of special education and related services? Since the enactment of the original EHA (P.L. 94-142), several new sources of funding have emerged. The Medicare Catastrophic Coverage Act became Public Law 100-360 on July 1, 1988. Although this legislation primarily concerned Medicare and has been repealed, it also contained an amendment to the Social Security Act that affects Medicaid (which is a joint federal-state program providing health care services for low-income persons). The 1988 amendments authorize Medicaid reimbursements for Medicaid-covered related services in the IEPs of Medicare-eligible students with disabilities. The Omnibus Budget Reconciliation Act of 1989, which further amended the federal Medicaid statute, also provides that treatment needs recommended through Medicaid's Early and Periodic Screening Diagnosis and Treatment process (EPSDT) "must include any services that are available under Medicaid, regardless of whether the state has opted to include such service as part of its Medicaid state plan" ("Can Medicaid", 1990, p. 161). As a result, some school districts are now receiving funds through Medicaid for certain related services that are provided in the public schools. An example of this can be drawn from the case of Melissa, an eleven year old whose disabilities were so severe she required the services of a trained nurse twenty-four hours a day. She attended public school under district funding and, by all accounts, not only benefited greatly herself but also provided a very positive example to her classmates by her enthusiasm and her determination to learn and succeed. Melissa's parent sought a federal court ruling to require the U.S. Department of Health and Human Services (HHS) to use Medicaid funds to

"(Eligible) students and their families are entitled to receive (related) services at no cost to themselves."

"Another potential funding source that has come into use in the last decade is third-party billing."

pay for the nursing services needed by Melissa while she was in school. HHS denied responsibility on the basis that Medicaid regulations stipulate that private nursing care was not covered by Medicaid for locations outside of a hospital, a nursing facility, or a recipient's home. However, the appellate court found in favor of Melissa, saying that when Medicaid legislation was enacted two and a half decades ago, the assumption may have been widely accepted that a person needing a private duty nurse would be confined to the locations mentioned in the regulations. Fortunately, that assumption is no longer true in today's society. "Rather, private duty nursing is today understood as "setting independent," referring to a *level* of care rather than to specific locations where the care can be provided" ("Can Medicaid", 1990, p. 161). Thus, the cost of the private duty nurse needed by Melissa while attending school was billable to Medicaid (*Detsel v. Sullivan*, 1990).

Another potential funding source that has come into use in the last decade is third-party billing. Third-party billing means that parents of students with disabilities use their private health insurance to pay for the individual evaluations or related services that their child receives. The idea of third-party billing arose out of somewhat ambiguous regulations under both EHA and Section 504 that state that insurers are not relieved of their obligation to "provide or pay for services provided to a handicapped child" [34 CFR § 300.301(b), 1988]. Third-party billing has been seen as a promising way for school districts to pay for related services, but it has also become controversial. As early as 1980, the U.S. Department of Education released a policy interpretation stating that educational agencies could not compel parents of a child with a disability to file an insurance claim that would pose a realistic threat to the parents in terms of financial loss. Examples of financial loss include, but are not limited to: (1) decreases in available lifetime coverage or other insurance benefits; (2) increases in insurance premiums; (3) discontinuation of the insurance policy; or (4) out-of-pocket expenses such as deductibles. However, the Department of Education did state that districts may require parents to file an insurance claim when: (a) doing so would not result in cost to the parents; and (b) the district ensures that parents do not have to bear even a short-term financial loss, such as paying a deductible. In the latter case, the school district "may insist that the parents file a claim if it [the school district] pays for the services and the deductible in advance" (U.S. Department of Education, 1980, p. 86390).

Many of the same points were reiterated in a 1990 OSEP letter. This letter adds a point concerning the financial loss to parents that results when filing an insurance claim leads to increased insurance premiums. The OSEP letter states that:

> ...if a public agency offers to pay the increased premiums, the parent would incur no financial loss and, therefore, could be required by the public agency to file an insurance claim. A parent's refusal to file an insurance claim, even where doing so would result in no financial loss, does not relieve the obligations of the public agency to provide FAPE [free appropriate public education] to the parent's child who is handicapped. (Newby, 16 *EHLR* 549)

The Office of Civil Rights (OCR) has also become involved in the controversy over third-party billing. OCR investigations into how some school districts were using third-party billing to pay for diagnostic and evaluative services revealed that parents were not adequately informed as to (a) the potential consequences and costs of billing their insurance companies, or (b) their right to refuse taking such action. Both OCR and OSEP — and recently the Office of Special Education and Rehabilitation Services (OSERS) — have confirmed the original Department of Education's policy that "without parents' voluntary consent to bill their insurance, districts cannot obtain reim-

bursement through private insurance carriers" ("Third-party Benefits", 1990, p. 5). Moreover, parents should be aware that a district may not terminate services to a student with a disability if parents refuse to file an insurance claim.

The policy interpretation issued by the U.S. Department of Education in 1980 does allow parents to *voluntarily* use their insurance benefits to pay for related services for their child. The district, however, must be able to prove that parents truly are cooperating voluntarily, rather than because they fear their child will otherwise not receive needed services.

Even where parents allow third-party billing, the district may still not be able to get reimbursed by insurance companies for providing related services. Some insurance policies specifically exclude coverage of services that the insured can obtain free under federal, state, or local laws. In a 1990 court case (*Chester County Intermediate Unit v. Pennsylvania Blue Shield*), parents seeking reimbursement from their insurance company claimed that the EHA forbids insurers from excluding coverage for related services. The Court, however, found that the regulations of the EHA (now IDEA) do not bind private insurers (16 *Education of the Handicapped Law Report* [*EHLR*] 925). Thus, insurance companies are within their rights to exclude from coverage related services that should be provided free of cost to students with disabilities under the IDEA. Needless to say, this represents another obstacle to school districts seeking to pay for related services through third-party billing.

Are There Shortages of Personnel for Related Services?

The answer is: *Yes*. The shortage of related services personnel is a recurring theme in state data on special education programs and related services. For example, in a survey conducted by the University of Maryland (Smith-Davis, Burke, & Noel, 1984), 36 states reported major shortages of physical therapists. In 1986, the number of states reporting shortages in this area had risen to 47 (McLaughlin, Smith-Davis, & Burke, 1986). These results are not unusual. Personnel reported to be in the shortest supply are occupational therapists, physical therapists, psychologists, counselors, social workers, and speech/language pathologists (Office of Special Education Programs, Division of Innovation and Development, 1990). The results of these and several other recent studies (National Easter Seals Society, 1988; Nicholas, 1990; Smith, 1990) attest to the problems that school districts face in finding, hiring, and keeping personnel in these important related services areas.

Salaries, of course, are a factor in these shortages, inasmuch as hospitals and private agencies can often offer greater compensation than can schools. But other factors include the lack of trained applicants for school positions and competition with other agencies who provide related services to the elderly population, infants at risk, and accident trauma victims. Mr. Reynaud, Director of Special Education for the Park Hill School District and President of the Council for Exceptional Children's Council of Administrators of Special Education (CASE), describes how this very problem is affecting his district's ability to provide related services.

> Over the years, our district has had an arrangement with St. Luke's Hospital in Kansas City to obtain OT and PT services on contract from its community-based program. This summer, St. Luke's called to say that they could no longer contract with us, because they were experiencing difficulty finding OTs and PTs to meet just the demands of their hospital services, not to mention their community programs. When a big organization like St. Luke's says something like that, you listen. (Reynaud, personal communication, August 3, 1990)

Not only are vacancies difficult to fill in many districts, but the scarcity of personnel leads to heavier case loads for those who are employed. To improve assessment and treatment, increase student contact hours, and allow more services for students who need them most, additional personnel time is certainly needed (Office of Special Education Programs, Division of Innovation and Development, 1990). There is also a pressing need to hire school-employed

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related service providers, rather than obtaining them through contractual arrangements with other agencies, as is often the case at present. However, many therapists are trained predominantly for clinical work and often prefer clinical rather than school settings. As demographics in the United States change, the shrinking representation of minorities in teaching and related services is also of concern.

All of these personnel shortages impact greatly on the school district's ability to provide related services to students with disabilities. "The worst impact," says Dr. Lowell Harris, Director, Division of Exceptional Children's Services for the North Carolina Department of Public Instruction, "is to know that children need services and the very disturbing knowledge that services can't be provided appropriately, even though there are funds to provide them." He adds, "The most poignant problem arises when a therapist leaves. Then the prolonged difficulty of finding a therapist begins: children have already been receiving services, but the services are taken away. That's where the hearings come in." (Harris, personal communication, August 3, 1990).

By "hearing," Dr. Lowell is referring to the legal right of parents to lodge a complaint against a school district when related services are not being provided to their child. A hearing is convened to review the evidence and determine if, indeed, the child is eligible to receive the disputed services and, if so, what has happened that they are not. It is clear from recent court cases and investigations by the Office of Civil Rights (OCR) that, regardless of staffing difficulties, school districts are responsible for providing the services students need. For example, a school district on Michigan's eastern Upper Peninsula found itself unable to hire and retain qualified physical therapists and speech pathologists, due in part to the district's isolated location. The district searched for candidates through posting vacancy notices in newspapers and in college placement offices, and tried unsuccessfully to establish a contractual agreement with a neighboring school district and a local sports medicine clinic to use their physical therapist services. A complaint was lodged against the district for failing to provide physical and speech therapy to a boy with cerebral palsy and other students with multiple disabilities. OCR investigated the complaint and held the district in violation of its requirements. OCR then ordered the school district "to take any measures available, such as contracting for services outside the immediate geographic area, to provide services to the children" ("Related Services: Funding and Personnel", 1988, p. 2).

In Conclusion: Addressing the Problems Together

Without a doubt, many school districts face very real problems in meeting their responsibility of providing the related services needed by school-aged children with disabilities. Chief among these problems are a shortage of personnel to provide related services and a shortage of monies to fund them. While school districts are required by federal law to provide related services, constructive action is needed on the parts of parents, practitioners, and school administrators in order to improve the situation. Here are some suggestions for action that can ease the budget and personnel crunch experienced by many school districts, without sacrificing the welfare of students who require related services in order to benefit from their education.

1. *Write a complete IEP.* Related services needed by a student should be listed in the IEP. Not listing related services in the IEP leads to inaccurate reporting of needed personnel in national and state data collection efforts, which distorts the true picture of the supply/demand problem. Therefore, *the documentation of related services and personnel needs begins with the IEP.* If that documentation is faulty, understanding of supply/demand becomes skewed. Plans that are made based upon this documentation are similarly skewed, and the problem of personnel shortages is perpetuated.

2. *Walk in each other's shoes.* The shortage of personnel and monies is real. There are simply not enough qualified related services personnel to fill all vacancies. At the same time, the news is filled with reports of school districts that cannot pay for the educational services they are required by law to provide. Parents, understandably, find it unacceptable that difficulties may exist in meeting their child's legitimate needs. The law, after all, guarantees their child's right to a free appropriate public education. Many parents may hold the view that the difficulties faced by school

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districts in terms of personnel and funding are the school district's concern, while the child's welfare is the parent's concern. Ultimately, however, the difficulties school districts face impact most upon those individuals who need the services — namely, eligible students with disabilities.

Addressing parents, Callanan (1990) cautions: "It's important to know and safeguard your legal rights. It can be a mistake, however, to misuse them or to view your relationship with professional educators as one-way, in which they give and you take... Positive participation on your part will further your child's education much more effectively than a series of avoidable confrontations" (p. 249). Thus, parents and school personnel need to develop a mutual recognition of the facts of their own district, appreciate the frustration that all parties have in this predicament, and work together rather than against each other to develop services for children. Both parties are interested in the welfare of the student with a disability, and so both parties need to concern themselves with the issues of funding and personnel shortages.

3. *Improve coordination of services and responsibility-sharing.* No single agency alone can handle the increasingly complex needs of children. There is a major and growing need for coordination of services, for resource and program sharing, and for new patterns of interagency collaboration and cooperative services involving schools, mental health, human services, welfare, health agencies, juvenile justice, homeless centers, and other services. Often, coordination and cooperation can be achieved more effectively at the grassroots level, with the assistance and involvement of concerned citizens, parents, and professionals, rather than through state and federal mandates.

4. *Become a creative networker.* There are many ways of finding services and establishing opportunities that go beyond what the school district offers to your child or youth with a disability. Be creative in building a team that utilizes the many resources available within your school and community. These resources can offer valuable learning experiences for your child. Become a networker. Talk to people such as reading specialists in the school, the chairperson of volunteer activities in the school or community, club leaders, librarians, and individuals involved in school or community sports programs. Explore what opportunities can be created for your child in recreational or after-school activities. Many parents have succeeded in networking with people within and outside of special education who are willing to involve children and youth with disabilities in activities offered by their club, organization, or place of employment. Becoming involved in school and community activities can give individuals with disabilities the opportunity to grow and learn academically, vocationally, and socially.

5. *Take constructive action.* Local parents, practitioners, and principals can activate entire communities in plans to staff the schools with excellent people. Among the strategies that can be carried out, both in rural and urban areas, are:

- encouragement of local students to enter careers in special education and related services;
- roles for high school students as tutors and aides;
- negotiations with higher education institutions anywhere in the country to place student teachers and interns in the district;
- development of community-wide and school-based incentives and a welcoming atmosphere to attract new personnel;
- planning with local businesses to offer jobs to spouses of teachers who might relocate;
- acquiring and/or raising scholarship funds for promising young people who will return to the community after completing professional training;
- arrangements with higher education to deliver locally-based training to increase the population of aides and assistants in the schools, and to provide career ladders whereby these personnel can acquire professional credentials;
- human-centered interagency cooperation that can extend and enrich services to all children;
- planned agendas of school improvement and community pride activities that will make your town a better place to live and work.

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FYI: Information Resources from NICHCY'S Database

The following information was selected from numerous resources abstracted in ***NICHCY's*** database. If you know of a group which provides information about related services to families, professionals, or the general public or which develops materials and programs in this area, please send this information to ***NICHCY*** for our resource collection and database. We would appreciate this information and would share it with others.

You can obtain many of the documents listed below through your local library. Whenever possible, we have included the publisher's address or some other source in case the publication is not available in your area. The organizations listed are only a few of the many that provide various services and information about related services to families and professionals.

Additional publications and information are also available from state and local parent groups and state and local affiliates of many major disability organizations. Please note that these addresses are subject to change without prior notice. If you experience difficulty in locating these documents or organizations, or if you would like additional assistance, please contact ***NICHCY***. Finally, you may find ***NICHCY's*** *State Resource Sheet* for your state or territory helpful in contacting other resources of information.

You may obtain copies of the laws discussed by writing to your Congressional Representative. Federal regulations are available by writing to Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. There is usually a charge for documents. It is important that you include the title of the regulations you are seeking.

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Warger, C.L., & Cuskaden, E.C. (1990). *The arts work: Employment training through the arts* Washington, DC: Very Special Arts. (Available from Very Special Arts, Education Office, the John F. Kennedy Center for the Performing Arts, Washington, DC 20566.)

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Magazines

Family support bulletin. Published quarterly by United Cerebral Palsy Associations, Inc., 1522 K Street N.W., Suite 1112, Washington, DC 20005. Telephone: 1-800-USA-5UCP, or (202) 842-1266.

Rehabilitation Technology Review. Available from the Association for the Advancement of Rehabilitation Technology (RESNA), 1700 N. Moore Street, Arlington, VA 22209. Telephone: (703) 542-6686.

The Special Educator. Published by LRP Publications, 747 Dresher Road, P.O. Box 980, Horsham, PA 19044-0980. (Annual subscription: $215.00 prepaid.)

Transporting students with disabilities. Published every two weeks by Federal News Services, Inc. P.O. Box 13460, Silver Spring, MD 20911-0460. Telephone: (301) 608-9322. (Annual subscription: $137.00.)

In addition, many of the organizations listed below publish journals or newsletters. Information about these publications is available by contacting the organizations directly.

ORGANIZATIONS

CLEARINGHOUSES AND INFORMATION CENTERS

Clearinghouse on Disability Information - Office of Special Education and Rehabilitative Services (OSERS), Room 3132, Switzer Building, 330 C Street S.W., Washington, DC 20202-2524. Telephone: (202) 205-8241.

ERIC Clearinghouse on Counseling and Personnel Services - University of North Carolina at Greensboro, 101 Park Building, School of Education, Greensboro, NC 27412-5001. Telephone: 1-800-414-9769.

ERIC Clearinghouse on Disabilities and Gifted Education - The Council for Exceptional Children, 1920 Association Drive, Reston, VA 22091. Telephone: 1-800-328-0272.

National Clearinghouse for Professions in Special Education - Council for Exceptional Children, 1920 Association Drive, Reston, VA 22091. Telephone: (703) 264-9474.

National Information Center on Deafness - Gallaudet University, 800 Florida Avenue, N.E., Washington, DC 20002-3695. Telephone: (202) 651-5051 (Voice); (202) 651-5052 (TDD).

National Resource Center for Paraprofessionals in Education and Related Human Services - 33 West 42nd Street, Room 620N, New York, NY 10036. Telephone: (212) 642-2948.

OTHER NATIONAL INFORMATION RESOURCES

ABLENET - 1081 10th Avenue S.E., Minneapolis, MN 55414. Telephone: (612) 379-0956.

Alliance for Technology Access - 1128 Solano Avenue, Albany, CA 94706. Telephone: 1-800-992-8111.

American Alliance for Health, Physical Education, Recreation and Dance - 1900 Association Drive, Reston, VA 22091. Telephone: (703) 476-3481.

American Art Therapy Association, Inc. - 1202 Allanson Road, Mundelein, IL 60060. Telephone: (708) 949-6064.

American Counseling Association - 5999 Stevenson Avenue, Alexandria, VA 22304. Telephone: (703) 823-9800.

American Dance Therapy Association (ADTA) - Suite 108, 2000 Century Plaza, Columbia, MD 21044. Telephone: (410) 997-4040.

American Dietetic Association - Division of Practice, 216 West Jackson Boulevard, Suite 800, Chicago, IL 60606-6995. Telephone: (312) 899-4814.

American Foundation for Technology Assistance, Inc. - Route 14, Box 230, Morganton, NC 28655. Telephone: (704) 438-9697.

American Occupational Therapy Association, Inc. - 1383 Piccard Drive, P.O. Box 1725, Rockville, MD 20850-4375. Telephone: (301) 948-9626.

American Physical Therapy Association - 1111 North Fairfax Street, Alexandria, VA 22314. Telephone: 1-800-999-2782.

American Psychological Association - 750 First Street N.E., Washington, DC 20002-4242. Telephone: (202) 336-5500.

American School Counselor Association - 5999 Stevenson Avenue, Alexandria, Va 22304. Telephone: (703) 823-9800.

American Speech-Language-Hearing Association - 10801 Rockville Pike, Rockville, MD 20852. Telephone: (301) 897-5700 (voice/TTY).

Council of Administrators of Special Education (CASE) - 615 16th Street N.W., Albuquerque, NM 87104. Telephone: (505) 243-7622.

Helen Keller National Center, - Technical Assistance Center (TAC) - 111 Middle Neck Road, Sands Point, NY 11050-1299. Telephone: (516) 944-8900.

National Association for Music Therapy, Inc. - 8455 Colesville Road, Suite 930, Silver Spring, MD 20910. Telephone: (301) 589-3300.

National Association of School Nurses - Lamplighter Lane, P.O. Box 1300, Scarborough, Maine 04070-1300. Telephone: (207) 883-2117.

National Association of School Psychologists - 8455 Colesville Road, Silver Spring, MD 20910. Telephone: (301) 608-0500.

National Association of Social Workers, Inc. - 750 First Street N.E., Suite 700, Washington, DC 20002. Telephone: 1-800-638-8799.

National Institute of Art and Disabilities (NIAD) - 551 23rd Street, Richmond, CA 94804. Telephone: (415) 620-0290.

National Therapeutic Recreation Society - 2775 S. Quincy Street, Arlington, VA 22206. Telephone: (703) 820-4940.

RESNA (The Association for the Advancement of Rehabilitation Technology) - RESNA Technical Assistance Project, 1700 N. Moore Street, Suite 1540, Arlington, VA 22209. Telephone: (703) 542-6686.

Trace Research and Development Center - S-151 Waisman Center, 1500 Highland Avenue, Madison, WI 53705. Telephone: (608) 262-6966 (Voice); (608) 263-5408 (TDD).

Very Special Arts - Education Office, the John F. Kennedy Center for the Performing Arts, Washington, DC 20566. Telephone: (202) 662-8899.

NEWS DIGEST is published three times a year. Individual subscriptions in the United States are free. In addition, ***NICHCY*** disseminates other materials and can respond to individual requests. Single copies of ***NICHCY*** materials and information services are provided free of charge. For further information and assistance, or to receive a *NICHCY Publications List*, contact ***NICHCY***, P.O. Box 1492, Washington, DC 20013, or call 1-800-695-0285 (Toll-free, Voice/TT) or (202) 884-8200 (Local, Voice/TT).

NICHCY thanks our Project Officer, Dr. Sara Conlon, at the Office of Special Education Programs, U.S. Department of Education, for her time in reading and reviewing this document. We would also like to thank Alice Wender, Technical Assistance Branch, the Office of Civil Rights, for providing her expertise in reviewing this manuscript. The assistance of Mary von Euler at the Office of Civil Rights was also timely and valuable. We also thank the many professional organizations that shared information and guidance about the services they provide to school-aged children with disabilities. Finally, we thank the American Occupational Therapy Association, Inc. for permission to reprint the photographs used in this issue.

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Health Care Plan. (1992). In Utah State Office of Education. *Guidelines for serving students with Traumatic Brain Injuries*. Salt Lake City: Utah Department of Education.

HEALTH CARE PLAN

(Please attach forms if room is insufficient)

Student Identification

Student Name _____ Date of Birth _____

Background Information
Nursing Assessment (complete all necessary sections)

Brief Medical History / Specific Health Care ☐ *(check box if additional information is attached)*

Psychosocial Concerns ☐ *(check box if additional information is attached)*

Student and Family Strengths ☐ *(check box if additional information is attached)*

Academic / Achievement Profile ☐ *(check box if additional information is attached)*

Goals and Actions

Skills checklist ☐ *Attach physician's order and other standards for care.*

Procedures and Interventions (student specific)

Procedure	*Administered by*	*Equipment*	*Maintained by*	*Auth / trained by*
1)				
2)				
3)				

Medications ☐ *Attach medication guideline and administration log.*

Diet ☐ *(check box if additional information is attached)*

IVORY—1992

Goals and Actions (continued)

Transportation ☐ *(check box if additional information is attached)*

Classroom School Modifications (including adapted PE) ☐ *(check box if additional information is attached)*

Equipment and Supplies: ☐ Provided by Parent ☐ Provided by School District ☐ *(not necessary)*

List Equipment:_____

Training, Education (staff, CPR, skills checklist), (peers, students)

Student Participation in Procedures (student skills checklist) ☐ *(check box if additional information is attached)*

Safety Measures ☐ *(check box if additional information is attached)*

Contingencies

Emergency Plan ☐ *Attached* Transportation Plan ☐ *Attached* Training Plan ☐ *Attached*

Substitute / Backup Staff (when primary staff not available)

Possible Problems to be Expected

Authorizations

I have participated in the development of the Health Care Plan and agree with the contents.

	Date		Date
Parent(s)_____	__/__/__	Teacher_____	__/__/__
School Liaison_____	__/__/__	Teacher_____	__/__/__
School Nurse_____	__/__/__	Other_____	__/__/__
LEA Representative_____	__/__/__	Other_____	__/__/__

Physician: *order for medication/specialized procedure (if pertinent)* _____ __/__/__

Administrative Comments

Effective Beginning Date _____ Date Health Care Checklist Completed _____

IEP if Appropriate _____ Date _____

Next Review Date _____

Appendix D

Modifying the elementary classroom. (1991). In Oregon Department of Education and Portland Public Schools. *Traumatic Brain Injury: An educator's manual* (p. 29). Salem: Oregon Department of Education.

MODIFYING THE ELEMENTARY CLASSROOM

For a Student with Traumatic Brain Injury

Student: _____ Teacher: _____ Birth Date: _____ Today's Date: _____

Presenting Concern: _____

Change the Teaching Mode:

- _____ Repeat directions
- _____ Increase active participation
- _____ Teacher circulate around room
- _____ Provide visual prompts (board/desk)
- _____ Provide immediate feedback (student corrects own work)
- _____ Teach semantic mapping
- _____ Use frequent review of key concepts
- _____ Teach to current level of ability
- _____ Speak more slowly or loudly
- _____ Reteach
- _____ Use peer tutor
- _____ Use small group instruction
- _____ Use simple sentences
- _____ Use individualized instruction
- _____ Pause frequently
- _____ Discuss errors and how made
- _____ Use cooperative learning
- _____ Utilize instructional assistant
- _____ Other: _____

Modify the School Setting:

- _____ Post class rules
- _____ Give preferential seating
- _____ Change to another class
- _____ Change schedule (more difficult classes in the morning)
- _____ Post daily schedule
- _____ Eliminate distractions
- _____ Modify length of school day
- _____ Provide time for frequent breaks
- _____ Provide place for quiet time
- _____ Maintain consistent schedule
- _____ Other: _____

Adapt Instructional Materials:

- _____ Reduce length of assignments
- _____ Use easier materials
- _____ Use aids (calculator, word processor)
- _____ Underline or highlight words
- _____ Change skill/task
- _____ Use manipulative materials
- _____ Use color-coded text
- _____ Use books-on-tape
- _____ Use graphic organizers (visual/spatial displays)
- _____ Modify testing mode/setting
- _____ Other: _____

Enhance Home/School Relations:

- _____ Parent conferences every _____
- _____ Daily/weekly reports home
- _____ Parent contract
- _____ Home visits on _____
- _____ Other: _____

Modify Student's Behavior:

- _____ Reteach expected behavior
- _____ Increase student success rate
- _____ Learn to recognize signs of stress
- _____ Give nonverbal cues to discontinue behavior
- _____ Reinforce positive behavior (4:1)
- _____ Use mild, consistent consequences
- _____ Set goals with student
- _____ Use schoolwide reinforcement with target student
- _____ Use group or individual counseling
- _____ Teach student to attend to advance organizers at beginning of lesson
- _____ Provide opportunities to role play
- _____ Other: _____

Marshal Resources From:

- _____ Occupational therapist
- _____ Physical therapist
- _____ Speech and language specialist
- _____ Other (including past) teachers
- _____ Resource teachers
- _____ Resource specialist
- _____ School psychologist
- _____ Student study team
- _____ Child Development Specialist
- _____ Principal/assistant principal
- _____ Rehab facility
- _____ Other _____

Provide Needed Support (buddy system):

- _____ Explain disabilities to other students
- _____ Teach peers how to be helpful
- _____ Position appropriately
- _____ Point out similarities to previous work
- _____ Teach sequencing skills
- _____ Teach study skills
- _____ Teach visual imagery
- _____ Write assignments in daily log
- _____ Encourage requests for clarification, repetition, etc.
- _____ Teach memory strategies
- _____ Elicit responses when you know student knows the answer
- _____ Allow extra time
- _____ Other: _____

Record of all modifications attempted.

Reed/Oregon Department of Education, 1991

Modifying the secondary classroom. (1991). In Oregon Department of Education and Portland Public Schools. *Traumatic Brain Injury: An educator's manual* (p. 30). Salem: Oregon Department of Education.

MODIFYING THE SECONDARY CLASSROOM

For a Student with Traumatic Brain Injury

Student: _____ Teacher: _____ Birth Date: _____ Today's Date: _____

Presenting Concern: _____

Change the Teaching Mode:

_____ Repeat directions
_____ Increase active participation
_____ Teacher circulate around room
_____ Provide visual prompts (board/desk)
_____ Provide immediate feedback (student corrects own work)
_____ Teach semantic mapping
_____ Use frequent review of key concepts
_____ Teach to current level of ability
_____ Speak more slowly or loudly
_____ Reteach
_____ Use peer tutor
_____ Use small group instruction
_____ Use simple sentences
_____ Use individualized instruction
_____ Pause frequently
_____ Discuss errors and how made
_____ Use cooperative learning
_____ Utilize instructional assistant
_____ Other: _____

Modify the School Setting:

_____ Post class rules
_____ Give preferential seating
_____ Change to another class
_____ Change schedule (more difficult classes in the morning)
_____ Post daily schedule
_____ Eliminate distractions
_____ Modify length of school day
_____ Provide time for frequent breaks
_____ Provide place for quiet time
_____ Maintain consistent schedule
_____ Move class site to avoid physical barriers (stairs, long halls, change of building)
_____ Other: _____

Adapt Instructional Materials:

_____ Reduce length of assignments
_____ Use easier materials
_____ Use aids (calculator, word processor)
_____ Underline or highlight words
_____ Change skill/task
_____ Use manipulative materials
_____ Use color-coded text
_____ Use books-on-tape
_____ Use graphic organizers (visual/spatial displays)
_____ Modify testing mode/setting
_____ Other: _____

Enhance Home/School Relations:

_____ Parent conferences every _____
_____ Daily/weekly reports home
_____ Parent contract
_____ Home visits on _____
_____ Other: _____

Modify Student's Behavior

_____ Reteach expected behavior
_____ Increase student success rate
_____ Learn to recognize signs of stress
_____ Give nonverbal cues to discontinue behavior
_____ Reinforce positive behavior (4:1)
_____ Use mild, consistent consequences
_____ Set goals with student
_____ Use key students for reinforcement of target student
_____ Use group or individual counseling
_____ Teach student to attend to advance organizers at beginning of lesson
_____ Provide opportunities to role play
_____ Teach student the grading system
_____ Other: _____

Marshal Resources From:

_____ Occupational therapist
_____ Physical therapist
_____ Speech and language specialist
_____ Other (including past) teachers
_____ Resource teachers
_____ Resource specialist
_____ School psychologist
_____ Student study team
_____ Counselor
_____ Principal/assistant principal
_____ Rehab facility
_____ Other: _____

Provide Needed Support

_____ Use peer-partner (Buddy system)
_____ Explain disabilities to other students
_____ Teach peers how to be helpful
_____ Position appropriately
_____ Point out similarities to previous work
_____ Teach sequencing skills
_____ Teach study skills
_____ Teach visual imagery
_____ Write assignments in daily log
_____ Encourage requests for clarification, repetition, etc.
_____ Teach memory strategies
_____ Elicit responses when you know student knows the answer
_____ Allow extra time
_____ Develop objective grading system using daily participation as a percentage of weekly and final grades
_____ Schedule regular meetings for all staff to review progress and maintain consistency
_____ Other: _____

Record of all modifications attempted. Reed/Oregon Department of Education, 1991

Serving the student with TBI. (1991). In Oregon Department of Education and Portland Public Schools. *Traumatic Brain Injury: An educator's manual* (pp. 11 - 19). Salem: Oregon Department of Education.

MATERIAL NOT COPYRIGHTED

Cueing systems may include assignment book, task cues, repeated instructions, written instructions, buddy system (for getting from class to class or for remembering assignments), maps for navigation within the school.

DEFICIT	BEHAVIOR	TEACHING STRATEGY
ACADEMIC SKILLS		
Decreased ability to plan.	Does not recognize due dates, or time required to complete class projects.	Help create a system for maintaining organization. Encourage use of a daily log of activities, schedules, assignment lists, and due dates; monitor frequently.
	Has difficulty getting to class on time.	Develop cognitive prostheses: wall charts, daily schedules, digital watches, watch alarms, timers, calendars, notebooks, lists, markers, tape recorders, and labels Use consistent structure for lessons and daily activities. Post a schedule of activities.
	Forgets to bring materials for class Forgets to prepare for field trip.	Include activities which involve planning. Have the student organize an activity (e.g., a party). Provide orienting data several times a day. Remind a student of names, places, schedules, and goals. Have student repeat directions that were given for an assignment or for finding another class.
Decreased ability to store and retrieve information upon demand.	Has little concern for details. Unable to recall specific details or sequence of a lesson.	Use visual and auditory cues to draw attention to details: highlight, underline, use reference pictures. Teach memory tricks and study skills. Have the student take notes or record information on tape. Underline or highlight key words in passages. Speak slowly; be clear, concise, concrete. Limit sentence length and complexity. Pair verbal statements or commands with pictures, demonstrations, or gestures. Use written directions. **REPEAT, REPEAT, REPEAT**
Decreased carryover for new learning.	Cannot recall or generalize information presented in class.	Teach memory strategies: categorize, associate, rehearse, chunk information. Rhyme words to help remember them. Make a word using the first letter of each word in a series that needs remembering (e.g., HOMES=Lakes Huron, Ontario, Michigan, Erie, and Superior).

DEFICIT	BEHAVIOR	TEACHING STRATEGY
		Rehearse verbally; practice visual imagery.
		Assign a student buddy to take notes or to monitor and check what has been written.
		Require written work.
		Teach to all learning styles and modalities.
Decreased ability to generalize learned information to new or different situations.	Is unable or refuses to take tests where newly learned information must be applied or generated.	Stress similarities. Provide a variety of examples of the topic.
		Provide study questions.
		Use multiple choice, fill-in-the-blank (include word list), or open book test.
Lack of initiative.	Forgets; does not complete or does not turn in homework.	Help develop a daily written assignment sheet. List due dates and times.
		Develop a consistent place and routine for turning in work.
Decreased ability to stay on task.	Is unable to begin and/or complete timed tests.	Simplify and organize the environment. Provide quiet space.
	Is unable to sit still in class.	Eliminate distractions and confusion; verbally cue the student to "begin" a task; nonverbally regain and redirect attention to the required task.
	Skips around while doing assignments; completes only parts of assignments.	Provide agenda; direct attention to what has been completed and what needs to be completed.
		Limit information; present short units.
		Provide breaks and/or rest periods.
		Provide optimal physical positioning. Use book holders, pencil grips, large print books.
Inability to perform well in competitive and stressful situations.	Has low tolerance for timed test situations.	Allow increased processing time.
		Do not use timed tests.
	Cannot complete work in the allowed time.	Use materials which do not require a time limit.
		Cut assignments in half; do every other problem.
	Argues and fights with peers during activities.	Use cooperative learning techniques.
		Use small group activities; gradually include full classroom activities.

Classroom aids may include calculator, tape recorder, writing aids, positioning equipment, augmentative communication devices.

Flexibility is a key ingredient for successfully integrating the student with TBI. Unlike other special education students who are neurologically stable, students with TBI may continue to change neurologically for weeks, months, or even years following return to school.

Environmental considerations may include noise level, activity level, special equipment, task arrangement, lighting, scheduling.

DEFICIT	BEHAVIOR	TEACHING STRATEGY
Low tolerance for frustration.	Has outburst of temper when others would try a different approach or request help.	Do not attempt to change the behavior using traditional behavior management approaches. Learn to detect behaviors leading up to the outburst and intervene prior to it happening (watch body language). Provide area that is quiet, that is away from activity. Allow time to be away from the situation and to get needed rest or emotional release. Provide an understanding person who will listen to feelings and frustrations. Model appropriate behaviors. Role play.
Inconsistent performance.	Does similar work correctly one day; incorrectly the next. Demonstrates model behavior one day and totally inappropriate behavior the next.	Discuss errors and how they might have been made. Point out similarities to previous work which has been completed successfully.
Inability to comply with classroom rules and teacher expectations.	Is withdrawn and not willing to participate in group activities. Refuses to recite in class.	Elicit individual response when you are sure that the student knows the answer; gradually request responses in small groups; repeat until the student feels comfortable participating in a large group. Encourage independence and initiation. Ignore fumbling. Write down directions so student can work independently. Use student help. Provide time for creative work in art, music, and literature. Give feedback on social behaviors. Talk about appropriate and inappropriate behaviors. Video tape sessions and study them together. Increase insight by discussing strengths and weaknesses. Don't argue. Provide clues from the environment. Encourage speech, but discourage confabulation. While working, limit discussion to that which is task oriented.
Rude, silly, immature for age.	Makes inappropriate comments to fellow students and teachers. Laughs out loud during serious discussions or quiet seatwork.	Present "what if...." situations and choices Provide opportunities to role play. Talk with student about appropriate and inappropriate behaviors. Video tape sessions and study them together. Increase insight by discussing strengths and weaknesses.

DEFICIT	BEHAVIOR	TEACHING STRATEGY
Verbally aggressive.	Interrupts conversations.	Teach good listening techniques. Have the student concentrate on the comments of others. Give nonverbal cues to discontinue interruptive behaviors.
EXPRESSIVE LANGUAGE		
Delayed responses	Does not answer immediately; appears not to know the answer.	Allow extra time to discuss and explain. Avoid asking too many questions. Give advance notice of questions; allow time to prepare answers. Phrase questions to allow choice of answer.
Word retrieval errors.	Uses "this," "that," "those things," "whatchamacallits." Difficulty providing answers on tests. Has disorganized syntax and difficulty thinking of words.	Teach the association skills. Encourage definitions or descriptions of words which cannot be recalled. Use semantic mapping or webbing techniques. Teach memory strategies (e.g., rehearsal, association, visualization, etc.). Encourage word retrieval. Use phonetic cueing and descriptions (e.g., "Can you tell me another way?").
Perseveration on words or phrases.	Starts to respond and gets "stuck" in the middle of a sentence. Repeats words or phrases (S: "He went, he went, he went").	Be patient. Repeat what has been said (T: "He went ...?").
Inadequate labelling or vocabulary to convey clear message.	Mislabels common objects, tools, materials, etc.	Teach vocabulary associated with specific subject areas and classroom activities.
Tangential communication	Rambles. Does not acknowledge listener's interest or attention.	Teach student to recognize nonverbal behaviors indicating lack of interest or desire to make a comment. (Work with this skill during private conversations with the student.) Teach beginning, middle, end of stories. Interrupt rambling speech; focus attention on the key issues.
Communication in informal situations differs from formal situations such as the classroom.	Answers questions at a surface level; unable to provide detailed explanation.	Encourage conversations to develop by giving instructions such as "Tell me more"; "How many did you see..."

Modification in materials/ tests may include enlarged print, simplified worksheets, take home tests, extra time.

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Ongoing success requires good case management. Good initial educational programs can easily deteriorate, either because the services fail to keep pace with the student's recovery and new developmental milestones, or because the student moves on to teachers who have not been oriented to the student's unique strengths and needs.

DEFICIT	BEHAVIOR	TEACHING STRATEGY
	Converses well in social situations; conversation in classroom lacks depth.	Role play formal conversations in small groups. Direct responses with verbal models, cues, and leading questions. Teach memory strategies (e.g., rehearsals, chunking, visualization, association, etc.).
Inability to describe events in sequence.	Relates details out of order. Can't explain directions for playing a game or doing an assignment.	Teach sequencing skills. Read short paragraphs and summarize; play games; do puzzles, sequencing activities, grouping, sorting, and categorizing. Use special education materials to teach specific skills.
Difficulty with abstract language; ambiguity, satire, inferences, drawing conclusions.	Says things that classmates interpret as satirical, funny, or bizarre, although they were not intended to be that way.	Teach the student common phrases used for satire, idioms, puns, etc.
Reduced verbal reasoning ability.	Gives a correct answer but unable to list the steps followed to solve a problem.	Teach inductive and deductive reasoning at appropriate age levels. Work with students privately to develop reasoning and explanations.
RECEPTIVE LANGUAGE		
Inability to determine salient features of "Wh.." questions, verbal information, or assignments read.	Completes the wrong assignment (e.g., instead of problems 9-12, student does 1-9).	Write assignments in daily log.
Inability to determine the specific aspects of questions that need to be asked.	Gets details confused when answering questions about details of a lesson. Responses may be related to specific questions, but not exact. Unable to decipher long story problems.	Ask questions which will elicit recall of important facts. Teach student to use highlighter to mark responses first. Encourage requests for clarification, repetition, a slower speed.
Failure to organize verbal or written information.	Performs steps out of sequence or fixates on one step.	Teach sequencing to sort and organize. Do not allow the student to skip steps, even if he says he knows what to do.

DEFICIT	BEHAVIOR	TEACHING STRATEGY
		Sequence instructions. Limit the number of steps. Discuss one step at a time. Check off each step as completed. Teach the structure of the task. Provide sample items describing how to proceed through a task. Use yesterday's work as a model for today's.
Inability to analyze or integrate information.	Disorganized or incomplete work. Confuses verbal directions; goes to the wrong room.	Provide written directions. Number directions. Have student cross off steps when completed.
Easily over-loaded.	Appears to be daydreaming or nonresponsive.	Focus attention. Pause frequently. Give time for processing information. Use short, simple sentences.
Inability to read nonverbal cues.	Unaware that the teacher or other classmates do not want to be bothered while working. Interrupts others.	Increase social awareness. Use preestablished nonverbal cues to alert the student that his behavior is not appropriate. Discuss.
Poor comprehension of lengthy or rapid speech.	Has poor notetaking skills; unable to select salient facts.	Use short, simple sentences, emphasizing key points by voice variations, intonations, etc. Alert the student to the important topics being discussed.
Difficulty understanding a sequence of events.	Gets lost in the daily routine (knowing order, or location of classes).	Provide written schedule of school routine and a map of the building with classrooms marked in order. Provide pictures of sequence of steps.
Difficulty with attention and comprehension.	Looses place while reading.	Provide additional time.
Ability to concentrate decreased.	Unable to relate information recently read. Easily distracted during reading assignments. Unable to complete silent reading and seatwork assignments at the same rate as classmates.	Reduce the amount of work to be done.

Teachers shouldn't emphasize having students catch up on missed assignments. They may have to focus on the deficits and develop teaching strategies to enhance learning as skills are regained or develop more permanent assistance when it appears that recovery is not occurring in specific areas.

If teaching strategies remediate cognitive and behavioral impairments so that a student acts more appropriately, placement options can increase. For example, helping the student gain self-control over impulsive behavior and decreasing the amount of disruptive or socially inappropriate behavior will go a long way towards placing the student in a less restrictive program.

DEFICIT	BEHAVIOR	TEACHING STRATEGY
Reduced ability to understand abstract language.	Misunderstands instructions and comments made. Does not understand humor.	Use correct language when presenting important information or correcting behavior. Teach the meaning of idioms, figurative language, ambiguous phrases, etc.
WRITTEN LANGUAGE		
Structure and content of the writing may not be of the same skill level as preinjury.	Has numerous grammatical errors in essays.	Give the student time to go over written work with a partner or teacher aide to find and correct errors. Teach vocabulary, grammar, and proofreading skills.
Sentence structure is simplistic and syntax disorganized.	Uses incorrect and unorganized sentence structure. Writes below age and grade level; themes may be simplistic, short and dry. Does not use figurative language; writing contains irrelevant or unsubstantial information.	Allow the student to verbally state ideas, tape record, or write from dictation. Use "question cards" to indicate the specific issues to be addressed in written assignments. Teach to current level of ability.
Decreased speed and accuracy. **Poor handwriting.**	Does poorly on timed tests.	Increase time and decrease requirements.
GENERAL BEHAVIORS - SOCIAL SKILLS		
Decreased judgement.	Is easily persuaded by others. Is impulsive. Speaks out of turn in class, gets up and moves about or leaves classroom.	Post class rules Discuss appropriate social conduct Use signals to cue student to alert behavior. Schedule time for frequent breaks. Establish specific rules for behavior.

DEFICIT	BEHAVIOR	TEACHING STRATEGY
	Is careless about safety. Does not look before crossing streets; poor decisions about playing on the playground or activities in PE class.	Use controlled setting before allowing student to be independent. PRACTICE, PRACTICE, PRACTICE
Inability to plan for the future.	Resents supervision.	Stress need for safety.
	Does not recognize physical or cognitive limitations.	Adjust complexity level of activities to the student's limitations. Build on success rather than failure. Provide appropriate vocational training.
Self insight lacking.	Doesn't understand other person's reaction to his behavior.	Point out inappropriate behavior. Describe appropriate behavior. Model behavior. Role play.
	Responds defensively to comments made or questions asked by teachers or fellow students.	Do not react or respond as if you need to prove a point; avoid confrontation; avoid "buying into" the argument.
Poor problem solving skills.	Solutions to situations are not carefully thought out.	Ask questions designed to help the student identify the problem, play out solution, and organize implementation of plan.

Provide support the student needs by allowing multiple opportunities to practice, appropriate role models, and carefully structured opportunities to learn.

Observable behaviors and strategies. (1992). In Virginia Department of Education and the Rehabilitation Research and Training Center on Severe Traumatic Brain Injury (pp. 66 - 84). *Guidelines for Educational Services for Students with Traumatic Brain Injury.* Richmond: Author.

Observable Behaviors and Strategies

A. Orientation and Attention to Activity

Observable Behavior:

Confused with time (day, date), place (classroom, bathroom), and personal information (birth date, address, phone, schedule)

Seems "in a fog" or confused

Stares blankly

Appears sleepy or to fatigue easily

Fails to finish things started

Can't concentrate or pay attention

Daydreams or gets lost in thoughts

Inattentive, easily distracted

Strategies:

Provide an uncluttered, quiet environment.

Provide printed or pictorial charts, schedules, or classroom maps that describe routines and rules of expected behaviors. Review these before each session and as needed throughout the day. These may be kept in a notebook that travels with the student.

Maintain consistent staff, room arrangement, and materials.

Label significant objects and areas; provide name tags for staff.

Redirect undesirable behavior by focusing student's attention on tasks that are sufficiently interesting to break the pattern of disruptive or perseverative responses. (Note: Do not use this technique if the student's behavior is attention seeking. Consultation with a behavior psychologist may be indicated.)

Teach student to look for permanent landmarks and name the landmarks when they come to them.

Have student verbalize how to go to a specific place before starting or while moving.

Use a buddy system.

Remove unnecessary distractions, such as pencils and books. Limit background noise first and gradually increase it to more normal levels.

Provide visual cues to attend (e.g., have a sign on student's desk with the work or pictured symbol for behaviors, such as LOOK or LISTEN. Point to the sign when student is off task).

Limit the amount of information on a page.

Adjust assignments to the length of students' attention span so that they can complete tasks successfully.

Focus student's attention on specific information: "I'm going to read a story and ask WHO is in the story."

Demonstrate a new task, repeat instructions and ask the student to repeat instructions. If this is unsuccessful, vary the activities so that less similar activities follow each other.

Distractibility resulting from the noise and confusion of large numbers of students changing classes may not allow the student to find the class until the halls are clear. Allow the student to leave a few minutes early from each class to beat the rush.

Redirect the student's attention as soon as his/her attention drifts away from the assignment. Gradually lengthen time of on-task behavior by strengthening the intervals of time that a student could receive reinforcement (either social praise or tangibles).

Use clearly defined objectives that are meaningful for the student.

Use short and concise instructions and assignments.

Reward on-task behavior; avoid punishing behavior that results from extreme distractibility.

Use novel, unusual, relevant, or stimulating activities.

Provide well-placed rest periods or breaks to minimize the effects of mental fatigue or stamina problems.

Closely monitor time of day, medications and fatigue factors; confer with physicians to determine the feasibility of adjusting medication times so as not to conflict with instructional time.

Be alert for attentional drifts and redirect the student to task when necessary.

Explore a variety of cuing systems, e.g., verbal cues, gestural cues or signs at the study site that remind the student to stay on task.

Use verbal medication strategies, such as inserting questions within a lesson, directing attention to the task and topic.

Use tasks specifically designed to help the student focus his/her attention; e.g., simple maze learning tasks or letter/number cancellation tasks, emphasizing speed, accuracy, and the self-instructions that might promote heightened attention to task; help the student to transfer this improved, self-directed attending skill into the classroom environment.

B. Starting, Changing, and Maintaining Activities

Observable Behavior:

Confused or requires prompts about where, how, or when to begin assignment

Doesn't know how to initiate or maintain (walks away, etc.) conversation

Confused or agitated when moving from one activity, place, or group to another

Stops midtask (math problem, worksheets, story, or conversation)

Unable to stop (perseverates on) inappropriate strategies, topics, or behaviors

Gives up quickly on challenging tasks

Strategies:

Begin the day by reviewing the schedule and highlighting any changes in the activities.

Help prepare the student for transitions throughout the day by reminding him or her of the next activity several minutes in advance.

"Walk through" transitions with the students: return the reading text to the desk, take out the math book, and move to the appropriate area for the math lesson.

Encourage the student to refer to printed or pictorial schedules with changes of activities, materials, or lesson locations.

Teach the student to model peer behavior to know what to do next.

Explain the purpose of the lesson; relate following directions to functional, everyday situations, such as assembling a model car or reading a recipe.

Review printed or pictorial description of how to do a task to relieve tensions that result from the student's not knowing what is expected.

Talk though several examples to help individuals get started.

Review pictorial or printed rules of behavior before each lesson: "Look, listen, raise your hand."

Praise students once they have begun a task and remind them that they are capable of completing the activity.

Role-play or tell students what to say when they are initiating social contacts with peers.

Emphasize closure of activities by giving students jobs such as collecting papers, cleaning up materials, or writing in their log books.

Encourage students to observe the behavior of others as tasks end.

List steps to the task and check them off when completed; emphasize where they are in relation to the final step.

List end-of-session behaviors: "Put papers in blue box, return to desk."

C. Taking in and Retaining Information

Observable Behavior:

Forgets things that happened, even the same day

Problems learning new concepts, facts, or information

Can't remember simple instructions or rules

Forgets classroom materials, assignments, and deadlines

Forgets information learned from day to day (does well on quizzes, but fails tests covering several weeks of learning)

Strategies:

Provide time at the end of a session for students to tell personal stories or jokes.

Include pictures or visual cues with oral information, since this multisensory input strengthens the information and provides various ways to recall it.

Try to make the material to be learned significant and relevant to the student.

Give meaning to rote data to enhance comprehension and learning.

Regularly summarize information as it is being taught.

Have the student overlearn material.

Couple the new information with previously learned information.

Teach the student to use one or more of the following techniques: visual imagery, "chunking" techniques (organizing information into easily retrieved segments), association techniques, mnemonic devices, such as acronyms, repetition and rehearsal techniques.

Use verbal rehearsal. After the visual or auditory information is presented, have the student "practice" it (repeat it) and listen to themselves as they act on it.

Limit the amount of information presented so that student can retain and retrieve it.

Provide a matrix for the student to refer to if he or she has difficulty recalling information.

Have the student take notes or record information on tape.

Underline key words in a passage for emphasis.

Provide a log book to record assignments or daily events.

Provide a printed or pictured schedule of daily activities, locations, and materials needed.

Role-play or pantomime stories to be remembered, such as who, what, when.

Have student gesture or role-play. He or she may be able to act out a situation that has occurred but not have adequate verbal language to describe it.

Provide visual or auditory cues: "Is it —— or ——?" or give the beginning sound of a word.

Include written multiple choice cues or pictures in worksheets.

Teach students to compensate for work-finding problems by describing the function, size, or other attributes of times to be recalled.

NOTE: Many of the strategies listed under memory and attending can be used also to improve language comprehension.

D. Language Comprehension and Expression

Observable Behavior:

Confused with idioms ("climbing the walls") or slang

Unable to recall word meaning or altered meaning (homonym or homographs)

Unable to comprehend or breakdown instructions and requests

Difficulty understanding "Wh" questions: who, what, where, when, and why

Difficulty understanding complex or lengthy discussion

Processes information at a slow pace

Difficulty finding specific words (may describe but not label)

Difficulty with clear articulation (slurs words)

Difficulty fluently expressing ideas (speech disjointed, stops midsentence)

Strategies:

Limit amount of information presented - perhaps one or two sentences.

Use more concrete language.

Teach the student to ask for clarification or repetitions or for information to be given at a slower rate.

Use pictures or written words to cue students: use a picture of a chair and the written word sit if you want the students to exhibit that behavior.

Pair manual signs, gestures, or pictures with verbal information.

Act out directions: if the student is to collect papers and put them in a designated spot, demonstrate how this should be done.

Use cognitive mapping (Gold, 1984): diagram ideas in order of importance or sequence to clarify content graphically. This also helps students to see part-whole relationships.

Many of the strategies listed under memory and attending can also be used to improve language comprehension.

Limit the amount of information presented; give the student instructions or other verbal information in appropriately small units.

Present verbal information at a relatively slow pace, with appropriate pauses for processing time and with repetition if necessary.

Limit the amount of extraneous or background noise when listening and understanding is critical.

State information in concrete terms; use pictures or visual symbols if necessary.

Have the student sit close to the teacher, with an unobstructed view.

Teach the student to ask questions about the instructions or materials presented, to ensure comprehension.

Teach the student to request slower or repeated presentations if the material is presented too rapidly.

E. Visual-Perceptual Processing

Observable Behavior:

Cannot track when reading, skips problems, or neglects a portion of a page of written material

Orients body or materials in unusual positions when reading or writing

Gets lost in halls and cannot follow maps or graphs

Shows left-right confusion

Strategies:

Describe the visual instructional material in concrete terms.

Provide longer viewing times or repeat viewings when using visual instructional materials.

Facilitate a systematic approach to reading by covering parts of the page.

Place arrows or cue words, left to right, on the page to orient the student to space; teach the student to use the cues systematically to scan left to right.

Provide large print books or use books on tape.

Move the student closer to visual materials or have the materials enlarged.

Place materials within the student's best visual field; consult with an ophthalmologist or occupational therapist about possible visual-perceptual problems.

F. Visual-Motor Skills

Observable Behavior:

Difficulty copying information from the board

Difficulty with note taking

Difficulty with letter formation or spacing

Slow, inefficient motor output

Poor motor dexterity (cutting, drawing)

Strategies:

Use large paper.

Use raised line paper.

Use paper with black lines on white, rather than dittoed or newsprint paper.

Provide visual clues for beginning and end of lines. Place a green dot in the left margin and a red dot in the right margin.

If not able to do handwriting worksheets with peers, the disabled child can practice letter or shape formation using materials appropriate for their muscle endurance. For example, writing with fingers can be done with finger paint, crazy foam, shaving cream, or sand trays. More resistance is offered by writing with a pencil in a clay tray.

Cursive handwriting may be inappropriate for students with limited endurance and stability (cursive requires a sustained, fluid motion, while manuscript allows for frequent breaks and repositioning). Such children should be taught to read cursive but be allowed to continue to write in manuscript.

Sometimes all that is needed is to provide the student with extra time to complete written tests and assignments.

Be certain that the activity you have assigned must be in written form before denying the child the opportunity to participate in other class activities or assigning completion for homework.

Alter length of written responses. Permit students to write shorter compositions than classmates.

Let student underline answers on worksheets rather than copying them onto a blank space.

Let student answer questions in one or two words rather than a complete sentence.

Because positioning may be influenced by head movements, far-point copying may not be appropriate for some students. Provide a near-point model at the student's desk.

A vertical paper holder may be useful to hold the model in front of the student.

Some students are not able to copy the same amount as peers. If copying can be limited, do so. If not, allow the student to copy what he/she can and have another student copy an extra set of notes for him with carbon paper.

Older students often are responsible for note taking as a means of extending textbook information. This may present more difficulty to the student with a disability than mere copying. As mentioned earlier, a near-point model can be supplied, often a xerox copy of the teacher's notes.

When handwriting modifications such as those listed above have not been successful, alternative means of written communication may need to be considered. Among these are typewriters, computers, and calculators. Familiarity with these keyboards should be encouraged at an early age. Commercial typing programs are available for this purpose.

Depending on the severity of the disabling condition, adaptive equipment may be needed to facilitate use of the keyboard. Such equipment may include keyguards, which fit over the keyboard and prevent the student from striking more than one key at a time; dowels, which the child grasps to use instead of fingers to hit keys; and head sticks, which are pointing sticks strapped to the head for students who are unable to use their hands.

Electric typewriters offer features that provide students with the most independence of operation and require less adaptation, such as automatic paper feeding, automatic line return, and self-correcting features. Easy access off and on switches also are important. Non-portable typewriters are preferable due to their weight, which prevents movement on the desk.

Computers with printers are available in all schools and can be utilized by students with disabilities for written assignments, as well as communication. If a student cannot use the traditional computer keyboard with typewriter adaptations, expanded keyboards and visual scanners are available.

Remember that while these alternatives to writing will improve legibility and accuracy, they will not necessarily increase speed. It may still be necessary to provide the student with more time to complete written assignments.

Allow student to write or highlight in textbooks.

Provide student with extra set of textbooks to keep at home rather than having to carry books back and forth to school.

G. Sequential Processing

Observable Behavior:

Difficulty with sequential steps of task (getting out materials, turning to page, starting and assignment)

Confuses the sequence of events or other time-related concepts

Strategies:

Limit the number of steps in a task.

Present part of a sequence and have students finish it.

Show or discuss one step of the sequence (lesson) at a time.

Give general cues with each step: "What should you do first? What should you do second?"

Have students repeat multistep directions and listen to themselves before attempting a task.

Provide pictures or a written sequence of steps to remember: Tape a cue card to the desk with words or pictures of materials needed for a lesson, then expand original written directions. For example, if the direction was "Underline the words in each sentence in which ou or ow stands for the vowel sound; change this to (1) "read the sentence;" (2) "underline ou and ow words;" (3) "read the underlined words;" (4) "find the two words that have the same vowel sounds;" (5) "write these two words on the lines below the sentence."

Tell students how many steps are in a task: "I'm going to tell you three things to do." (Hold up three fingers)

Act out a sequence of events to clarify information.

Provide sample items describing how to proceed through parts of a workshop.

Number the steps in written directions and have the students cross off each step as it is completed.

Teach students to refer to directions if they are unsure of the task.

H. Problem-Solving, Reasoning, and Generalization

Observable Behavior:

Fails to consider alternatives when first attempt fails

Does not use compensatory strategies (outlining or underlining)

Problems understanding abstract concepts (color, emotions, math, and science)

Confusion with cause-effect relationships

Unable to categorize (size, species)

Problems making inferences or drawing

Can state facts, but cannot integrate or synthesize information

Difficulty applying what they know in different or new situations

Strategies:

Teach the structure or format of a task (e.g., how to complete a worksheet or mathematics problem.

Maintain a known format and change the content of a task to help students see a relationship: Two pictures are presented and students must say if they are in the same category, or have the same initial sound; a worksheet format requires filling in blanks with words or numbers.

Change the format of the task: Have students solve mathematics facts of a worksheet as well as on flash cards.

Have completed sample worksheets in a notebook serve as models indicating how to proceed.

Demonstrate how skills can be used throughout the day: Discuss how students rely on the clock or a schedule to get up in the morning, begin school, or catch a bus.

Role-play in situations that simulate those which students may encounter, emphasizing the generalization of specific skills taught: completing school assignments and going to the store may involve the same strategies (making a list or asking for help).

Develop a problem-solving guide to help students through the stages of problem solving (e.g., identify the problem; acquire relevant information for solving the problem; generate several possible solutions; list pros and cons for each solution; identify the best solution; create a plan of action; evaluate the effectiveness of the plan).

Raise questions about alternatives and consequences.

Allow the student to bring up relevant real-life problems that are appropriate for group discussion; promote brain-storming about alternative solutions and their usefulness.

Introduce roadblocks and complications to enhance "detouring" skills and to encourage flexibility.

Provide ongoing, non-judgmental feedback.

Provide concrete dialogue.

Be certain expectations are clear and understood.

Ask the student to explain his/her understanding of what he/she has just heard or understands regarding a situation.

Rephrase oral communication if student does not understand.

I. Organization and Planning Skills

Observable Behavior:

Difficulty breaking down complex tasks (term papers, projects)

Problems organizing materials

Problems distinguishing between important and unimportant information

Difficulty making plans and setting goals

Difficulty following through with and monitoring plans

Sets unrealistic goals

Strategies:

Attempt to limit impulsive responses by encouraging the students to take "thinking time" before they answer.

Have students organize information by using categories, such as who, what, when, where. This strategy can be used in an expanded form to write a story.

Teach students a sequence of steps to aid in verbal organization: have the students use cue cards with written pictured steps when formulating an answer.

Focus on one type of information at a time.

Decrease rambling by having students express a thought "in one sentence."

Limit the number of steps in a task.

Provide part of a sequence and have the student finish it.

Give cues, such as "Good, now what would you do?"

Structure thinking processes graphically, e.g., with time lines, outlines, flow charts, graphs.

Use categories to focus on one topic at a time.

Identify the main idea and supporting details; categorize the details (e.g., using who, what, when, where, and why questions); teach the student to do the same when reading or listening to lecture material.

J. Impulse or Self Control

Observable Behavior:

Blurts out in class

Makes unrelated statements or responses

Acts without thinking (leaves class, throws things, sets off alarms)

Displays dangerous behavior (runs into street, plays with fire, drives unsafely)

Disturbs other pupils

Makes inappropriate or offensive remarks

Shows compulsive habits (nailbiting, tapping)

Hyperactive, out-of-seat behavior

Strategies:

Place unnecessary materials out of sight or out of reach.

Discuss rules and their importance at the beginning of the lesson.

Explain how student' impulsive acts (e.g., calling out) disturb others.

Role-play appropriate responses (e.g., raising hand). Place a sign on the student's desk with a picture of a hand and point to this when the student interrupts.

Employ "stop-action" technique: Immediately stop individuals from disrupting an activity, encourage them to verbalize an alternative behavior, and have them follow through appropriately.

Provide time at the end of a session for students to tell personal stories or jokes.

Assure the student that he or she has sufficient time to complete tasks and need not "hurry through" them. If needed, break a large task down into smaller tasks.

Recognize that the student will have difficulty "taking turns and sharing." Try to alleviate those situations when possible. If that is not possible, attempt to reduce the stress with a remark such as, "We have plenty of time before we have to get started, so take your time sharpening your pencils."

K. Social Adjustment and Awareness

Observable Behavior:

Acts immature for age

Too dependent on adults

Too bossy or submissive with peers

Peculiar manners and mannerisms (stands too close, interrupts, unusually loud, poor hygiene)

Fails to understand social humor

Fails to correctly interpret nonverbal social cues

Difficulty understanding the feelings and perspective of others

Doesn't understand strengths, weaknesses, and self presentation

Doesn't know when help is required or how to get assistance

Denies any problems or changes resulting from injury

Strategies:

Make students aware of what they can and cannot do: Expand tasks that are done successfully by adding one step that will be "harder."

Make asking for help a student goal and reinforce this heavily.

Attach cue cards to desk: "Raise your hand for help."

Decrease daydreaming that results from an inability to proceed by asking direct questions or by providing cue cards: "Are you stuck?" "Is that clear?"

Model desired behavior; role-play situations.

Review directions or sample items.

Provide a written sequence to follow and thus circumvent memory problems and anxiety.

Assure them that they can complete the task.

Select only a portion of the task or short assignments to be completed independently.

Point to a sign "Return to work" when students stop working.

Use a timer intermittently, and reward students who are working when it rings.

Provide additional time for students who work slowly to complete tasks.

L. Emotional Adjustment

Observable Behavior:

Easily frustrated by tasks or if demands not immediately met

Becomes argumentative, aggressive, or destructive with little provocation

Cries or laughs too easily

Feels worthless or inferior

Withdrawn, doesn't get involved with others

Becomes angry or defensive when confronted with changes resulting from injury

Apathetic and disinterested in friends or activities

Makes constant inappropriate sexual comments and gestures

Unhappy or depressed affect

Nervous, self-conscious, or anxious behavior

Strategies:

Emphasize what the individuals can do and point out progress that they have made: Compare recent past and present work.

Chart achievement of goals to build self-confidence.

Limit perseverative behavior by using verbal directions ("Erase only once") or by focusing attention on less threatening or more socially appropriate tasks.

M. Sensorimotor Skills

Observable Behavior:

Identified problems with smell, taste, touch, hearing, or vision

Problems with visual acuity, blurring, or tracking

Problems with tactile sensitivity (e.g., can't type or play an instrument without watching hands)

Identified problems with oromotor (e.g., swallowing), fine motor, or gross motor skills

Poor sense of body in space (loses balance, negotiating obstacles)

Motor paralysis or weakness of one or both sides

Motor rigidity (limited range of motion), spasticity (contractions), and ataxia (erratic movements)

Difficulty with skilled motor activities (dressing, eating)

Strategies:

Building site should include ramps or level spaces to allow the student in a wheelchair easy access to entering/exiting the building. A fire/emergency exit plan should be established with necessary modifications.

Ramps should have a slope of one foot length per inch of rise. A level space of at least three feet must be available for resting at teach 30 foot interval of ramp.

Walkways should allow safe mobility in a wheelchair from bus to building.

Students should open doors independently if possible. A physical therapist can provide consultation or teach the child this skill if possible.

Restrooms should be accessible - this may require the use of toilet rails, wider stalls, raised toilet seats, and more space for maneuverability.

A student in a wheelchair should be able to reach the paper towel dispenser, trash can, soap dispenser, and sink. Pipes under the sink should be insulated if a student in a wheelchair is using the sink.

A water fountain or sink with cup should be accessible in the area of the student's class.

A public telephone should be accessible if it is available for other students.

Lockers should be accessible to students in wheelchairs. Height of the locker depends on the student's size, balance, and flexibility. It is helpful to have a locker so they are as much as possible in the same are of the building. Locks with keys may be better than combination locks for some students.

Consult the building principal and physical therapist if assistance is needed to make modifications.

A Lift bus should be used for students in wheelchairs or those who cannot climb steps and who sit in a chair on the lift only.

Seat belts, car seats, harnesses should be provided on a special education bus.

Bus driver may discharge/pick up student at a location which provides maximum independence for the student. A curb or stationary step may be used to assist students who have difficulty climbing steps.

Independence getting off/on the bus along with safety should be stressed.

If the student needs a seat belt or harness and can otherwise ride a regular bus, the transportation department can equip the bus to be used with a seat belt or harness.

If the student needs a lift bus, encourage the other students to ride with him. If all the students cannot fit on the lift bus but could fit in a regular bus, the special education department can be contacted by the Director of Elementary or Secondary Education and asked to cover the cost of the lift bus. Other students should ride the bus with the student with a disability.

The student may need an adult as an aide on the field trip. This may be the parent, a volunteer, or an aide from the school. The special education department may be contacted if these individuals are not available.

The site being visited on a field trip should be studied prior to the trip to determine any possible problems (e.g., accessibility of bathrooms, walking terrain, distance).

If a student will be unable to walk the entire distance included on a trip and he/she does not have a wheelchair or other mode of mobility, the physical therapist can assist in securing a wheelchair for the day.

Classroom should be set up so the student can easily move to his/her desk, teacher's desk, and work stations.

Secondary classes should be scheduled with as little distance between classes as possible.

The student may need to leave class early to get to his/her next class and avoid crowed halls.

A basket may be added to the side of a student's wheelchair or to his/her walker to carry his/her books. A back pack is helpful for some ambulatory students or a buddy may need to carry his/her books.

A student who may need to take his/her computer or typewriter from class to class may be able to do so independently if it is on a rolling table.

Use a table of the correct height, where forearms comfortably rest flat on the table when sitting erect.

Use only the necessary amount of side and back support.

Use a belt around the pelvis which doesn't impair breathing, if a belt is necessary.

Support the child's feet so that the hips and knees are at 90 degree angles.

Prevent incorrect positioning, such as knees crossed.

The trunk and head should be as straight as possible.

If a child has an unusual pencil grasp, do not immediately try to change his/her grip. This grip may be a reflection of unstable positioning. Children will often use a tight pencil grip as a means of gaining postural stability.

Pencil Grips may be useful with some students to provide pencil stability. Commercial grips can be purchased. They can also be made from clay, plaster of paris, masking tape, or rubber bands.

The writing utensil affects the quality of written work equally as much as the skill in executing the various handwriting strokes. When selecting a writing instrument, keep in keep that a pencil or crayon requires the most physical strength because they provide the most resistance. If you see that a student is having difficulty using these instruments, try having him write a flair or ball-point pen, which provides less resistance.

Tape or secure paper to desk.

Compensatory Strategies. (1994). New York State Education Department (pp. 40 - 43).*Traumatic Brain Injury: A Guidebook for Educators* . New York: Author.

COMPENSATORY STRATEGIES

Orientation:

The Student

- *uses a map or written schedule to show him/her where to go.*
- *describes how to get to a location before going.*
- *leaves class early to avoid confusion of hall traffic.*
- *uses an alarm watch or timer set for regular intervals.*
- *uses assignment books.*

Attention/Concentration:

The Student

- *uses color cuing or underlining to focus attention.*
- *requests that teachers repeat instructions slowly.*
- *recognizes and communicates when he/she is presented with too much information at one time.*

Visual/Perceptual Process:

The Student

- *uses a marker to limit the amount of written information on a page.*
- *uses an index card to assist scanning and maintaining his/her place.*

Organization:

The Student

- *uses a notebook to organize schedules, maps, homework, strategies.*
- *uses graphic organizers such as charts, graphs, flow charts, timelines, arrows.*
- *highlights and makes notations in long passages.*
- *uses task organization checklists with sequenced steps.*

Memory:

The Student

- *uses notes, lists, schedules.*
- *uses a tape recorder.*
- *repeats information over and over silently to place it in memory.*

Problem Solving:

The Student

- *uses a checklist to identify alternatives, weigh consequences, and select course of action.*

Self-Monitoring:

The Student

- *uses "self-talk" (e.g., Is the task complete? Was I successful? What do I need for this task?).*

Following are examples of instructional modifications to address cognitive problems. This list is not exhaustive and not all examples are relevant for all students.

INSTRUCTIONAL MODIFICATIONS

Orientation:

- *Provide cues to help with transitions "In five minutes, we will be going to lunch."*
- *Cue the student to observe peers.*

Attention/Concentration:

- *Provide cues to the student to look or listen for certain information.*
- *Use short and concise instructions.*
- *Provide verbal, visual, or physical redirection.*
- *Present verbal information at a relatively slow pace, with appropriate pauses for processing time and with repetition if necessary.*

Visual/Perceptual Process:

- *Provide longer viewing times and repeat viewing.*
- *Provide arrows or cue words on a page to orient the student.*
- *Use color or underlining to focus attention.*
- *Use verbal cues.*

Organization:

- *Condense lengthy directions into steps.*
- *Provide a list of key words and concepts for lessons being taught.*
- *Organize thoughts by teaching from the concrete to the abstract.*

Memory:

- *Summarize information as it is being taught.*
- *Couple new information with previously learned information.*
- *Reinforce information presented with pictures or other visual images.*
- *Emphasize information to be remembered.*

Problem Solving:

- *Teach the student steps involved in problem solving.*
- *Use events that occur in the class to help him/her practice problem solving.*
- *Use modeling, rehearsing, and role playing*

Initiation:

- *Provide cues to the student to begin tasks.*

Instructional Modifications

Three types of instructional modifications effective for students with TBI include promoting academic success while addressing cognitive problems, curriculum modifications, and teacher modifications.

Focus on Cognitive Problems While Teaching Academic Content

It is important academically, and to the student's self-esteem, that the student continue to progress educationally with his her peers to the greatest extent possible. Teachers should approach instruction in subject areas with two goals in mind - teaching the content and addressing a student's cognitive deficit areas. The integration of these two goals is necessary to ensure that the student learn how to learn and apply learning strategies to actual school-related, real-life situations. For example, arithmetic instruction is an ideal opportunity to promote general improvements in problem identification and problem solving. Reading and writing assignments that go beyond one or two paragraphs are an opportunity to focus on general organizational skills or strategies. Instructional interactions often present opportunities to improve the student's executive functions by asking questions related to planning and evaluating his her performance (e.g., "Is this easy or difficult for you? Why or why not? How well do you think you will do? Why? How do you plan to achieve that goal? How are you doing? Did you do as well as you thought you would? What could you do to improve?") (Ylvisaker, 1993).

Curricular Modifications

Students with TBI often have profiles of abilities characterized by preserved islands of skills and gaps in basal areas (Cohen et. al., 1988). Students may have intact higher level skills but have difficulty performing lower level tasks. For example, a student may be able to complete division problems but not simple addition problems. Testing for students with TBI should include investigation of skills below basal and above ceiling levels. Most curriculum is sequenced based on skill hierarchies, and achievement at a given skill level implies that a student has all the antecedent skills intact. For students with TBI, assumptions cannot be made that antecedent skills are intact or that a student who cannot perform a specific skill has not retained higher level skills (Cohen et. al., 1988). Instruction should be provided to take advantage of preserved higher level skills while practice in lower level skills must be creatively added.

Teaching Modifications

Just as students learn compensatory strategies to address their cognitive problems, teachers need to consider modifications in their teaching approaches to promote successful learning situations. For example, for students with organizational problems, teachers may need to consolidate lengthy directions into steps, provide the student with a list of key words and concepts for lessons being taught, and help the student to organize his/her thoughts by teaching from the concrete to the abstract and use techniques to help the student categorize and associate (link) the material with known material.

Environmental Modifications

Students with TBI can be assisted in their learning through modifications in the environment, materials, and teaching approaches. The goal for all students should be to gradually decrease the amount of environmental compensation needed at a rate to ensure a student's successful functioning.

Types of environmental compensations include:

- ❑ adaptations to the physical environment (such as preferential seating arrangements, removal of visual distractions, optimal location of classrooms, and decreased noise levels);
- ❑ attention to routines (such as consistent schedules, formats);
- ❑ assignment of personnel to promote consistency; and
- ❑ material adaptation (such as use of assistive technology, large print, etc.).

Examples of environmental modifications are listed below. This list is not exhaustive and not all examples are relevant for all students.

ENVIRONMENTAL MODIFICATIONS

Orientation:

- *Provide for consistent room arrangement, materials, and routines.*
- *Assign a peer to assist student in locating classes, following schedules, etc.*

Attention/Concentration:

- *Build in rest periods to address fatigue and stamina problems.*
- *Minimize visual and auditory distractions in the room (use of a study carrel, limit the number of items on a desk).*
- *Place the student's desk near the teacher.*

Visual/Perceptual Process:

- *Use large print books, visual guides, books on tape.*
- *Arrange preferential seating.*
- *Use adaptive materials such as a lap board to modify the angle of the student's desk.*

Organization:

- *Structure a student's thinking process graphically through timelines, flow charts, and graphs.*
- *Provide two sets of books - one for home and one for school.*
- *Set up a notebook for the student to use for all subjects.*

Memory:

- *Display written rules and assignments.*
- *Provide a written set of questions before reading the material.*
- *Tape record lessons.*

Waaland, P. (1991). Developing an Educational Program. In *Academic reentry of children and youth following Traumatic Brain Injury* (pp. 6 - 7). Special Topic Report #4. Richmond, VA: Rehabilitative Research & Training Center on Severe Traumatic Brain Injury.

DEVELOPING AN EDUCATIONAL PROGRAM

PROGRAM AREA	ISSUE/PROBLEM/DEFICIT	STRATEGY/TECHNIQUE
Scheduling	Physical and mental endurance are quite limited during early stages of recovery, sometimes for a long period postinjury.	Homebound instruction; a gradual increase in time at school; or changes in the sequence of classes.
	Peak level of [illegible] is early in the school day.	Ideally, schedule classes presenting the greatest challenge for the student (often ones involving more detailed coursework) at the beginning of the day.
	Fatigue, headaches, or dizziness during the school day.	Allow student to rest in the nurses' station; this may prevent frequent absences or school avoidance. A neurologist or physiatrist should provide guidelines for rest periods, physical contraindications (such as gym activities), medication needs, and medication side effects. Adapted physical education, limited participation in physical education, or a total restriction of physical activity for six to twelve months may be indicated.
	Significant amount of time lost from school due to the injury.	An extra year or an extended school year (summer courses) may be necessary in order to complete coursework. For the student with severe retention problems or lengthy absence from school, tutorial services over the summer months could be indicated.
Instructional Strategies	Difficulty completing homework assignments in the evening due to fatigue and problems assimilating new material.	Reduce or limit homework assignments. In the classroom and at home, determine the level of assistance needed to complete academic assignments, ranging from periodic individual attention to the infrequent need for full-time assistance for the student who cannot understand or sustain concentration without total support.
	Visual, hearing, and/or multisensory problems.	Determine if the student learns best with written, auditory, or multisensory format. Consider special setting in the classroom, enlarged print, or other modifications.
	Problems with reading or language comprehension.	Reduce difficulty level and pair with pictures or diagramming. Use Cliff's notes, outlines, or other written aids.
	Unable to remember formulas, definition, and other information for application of concepts.	Use a notebook or large ring with labeled index cards containing the necessary information.
	Trouble staying on task.	Limit noise and visual distractors, as well as the length of assignments or instructions; increase task relevancy and praise the student for on-task behavior.
	Processes, thinks, and retrieves information slowly.	Ask simplified questions and give ample time (including use of untimed tests) and cues for success.
	Difficulty finding or organizing thoughts into sentences or paragraphs.	Provide cues; structure tasks (e.g., time lines, categories, or steps); give multiple choice; or ask student to respond in outline rather than essay form.

PROGRAM AREA	ISSUE/PROBLEM/DEFICIT	STRATEGY/TECHNIQUE
	Short term memory problems (difficulty learning new material and remembering where to go or how to get there).	Limit the amount of information; teach memory strategies; highlight key words and summarize information. Student may benefit from frequent review and testing; if unable to retain information from four chapters, test each chapter individually. Use tape recorders, calculators, memory aides such as an assignment pad, and computers. A small notebook (attached to the student's belt or purse) can store important information, such as a school map, the student's class schedule, and locker combination.
	Anxiety and frustration over school performance.	Take-home exams, practice exams and adapted grading systems increase the likelihood of successful experiences for the returning student.
Assistive Devices	Unable to integrate the multisensory task of processing relevant vs. irrelevant information and taking notes simultaneously.	*Use a tape recorder selectively (e.g., to record homework assignments or review for test); written outlines provided by another student or the teacher are a good solution to difficulty in notetaking.
	Inattentive, tangential, impulsive, disruptive, or silly behaviors in the classroom	Beepers, nonverbal cues, and gentle physical prompting provide helpful feedback and redirection.
	Impaired motor dexterity or decreased strength.	Use adaptive motor devices, notetakers, and oral rather than written tests.
Social/Behavioral Interventions	Social and behavioral problems ranging from psychiatric symptoms (placidity, catatonia, agitation and aggression, anxiety and depression) to disinhibition and rapid mood swings.	Refer the student with psychiatric and behavior problems for possible treatment with medication and/or individual therapy.
	Socially inappropriate behavior, concrete in thinking and socially immature, resulting in the inability to understand jokes, social nuances, and the feelings of others.	Student may benefit from participation in a social skills training program delivered in the school setting to facilitate transfer of learned skills. Program should: a) be problem- or skill-specific; b) provide role modeling or a written "script" of appropriate behavior; c) include the student in repeated role-plays of target behaviors; d) provide constructive feedback to student; and e) incorporate opportunities for practicing behavior at home and at school. Videotaping sessions gives concrete feedback and allows the student to evaluate performance. (Use of videotape should be cautiously evaluated as it may further diminish the self-esteem of the student with physical disabilities.)

* A tape recorder is often recommended as recruitment for the student with retention problems, but the tape recorder falls short in several important areas. It does not address the need to simplify material, promote comprehension, and reduce memory demands. The computer, which has many applications, is a boon to persons with traumatic brain injury. It may provide the only means of communicating for the aphasic student, a way to simplify instruction and enhance attention for the student with moderate impairments; and a way to successfully negotiate coursework for the college bound student who is less overwhelmed by paper. Word processing capabilities allow the student (and a tutor) to easily modify, reorganize, and systematically store information. In addition, commercially available software programs address problems the student may have in grammar, spelling, and word finding.