Modules

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SECTION III

SCHOOL PROGRAMS AND SERVICES

The Continuum of Placements: From Regular Classes to Residential Facilities

Before the Individuals with Disabilities Education Act (IDEA) was enacted, approximately 1 million students with disabilities were excluded from public schools, and few, if any, received educational services. Although great progress has been made in guaranteeing services for these students during the past 20 years, questions remain about the extent to which those services are being provided in the least restrictive environment (LRE). Particular concern has been raised about the number of special education students receiving costly services in private day and residential facilities at public expense and diverting scarce resources from other areas of the educational system (Huefner, 1989; McCarthy, 1993).

IDEA requires that "to the maximum extent appropriate, children with disabilities. . .are educated with children who are not disabled; and that. . .removal of children with disabilities from the regular educational environment occurs only when the nature. . .of the disability is such that education in regular classes with the use of supplementary aides and services cannot be achieved satisfactorily" (U.S.C. 1412(5)(B)). The IDEA regulations further specify that a continuum of alternative placements should be available to meet the needs of children with disabilities for special education and related services (34 CFR 300.551).

At one end of that continuum is placement in regular classes; at the other end is placement in residential facilities and homebound/hospital placements. This module examines the environments in which students with disabilities receive special education services, with particular attention to regular class and residential placements. How many children are served in these settings? Are the proportions served increasing or decreasing? If the proportions served are changing, what are the reasons for these changes?

Progress Toward Inclusion of Students with Disabilities

Educators, parents, advocates, and others who promote appropriate inclusion of students with disabilities in general education classes believe that doing so will provide those students with greater access to the general education curriculum, appropriate education with their nondisabled peers, raise expectations for student performance, and improve coordination between regular and special educators. They also believe that greater inclusion will result in increased school-level accountability for educational results.

In 1994-95, 2.2 million of the total 4.9 million students with disabilities ages 6 through 21 spent at least 80 percent of their school day in general education classes,[1] and more than 95 percent of all students with disabilities attended regular schools. The environments in which students receive services vary according to the individual needs of the child. Although 87 percent of students with speech and language impairments were served in regular classes for 80 percent or more of the school day, only 9.7 percent of those with mental retardation were served in regular class placements. Students ages 6-11 were more likely to receive services in regular class placements than students ages 12-17 or 18-21.

Progress in serving students with disabilities in regular classes and resource rooms has varied from State to State. A few rural States serve more than 90 percent of their special education students in regular class and resource room placements (Idaho, North Dakota, Vermont). Other States or jurisdictions with larger urban populations serve fewer than 60 percent of students in those placements (District of Columbia, Louisiana, New York).

[1] OSEP defines a regular class placement as one in which students with disabilities receive special education and related services outside of the regular class for 0 to 20 percent of the school day. Resource room placements are those in which students receive special education and related services outside of the regular class for 21 to 60 percent of the school day. Separate class placements include students who receive special education and related services outside the regular class for more than 60 percent of the school day.

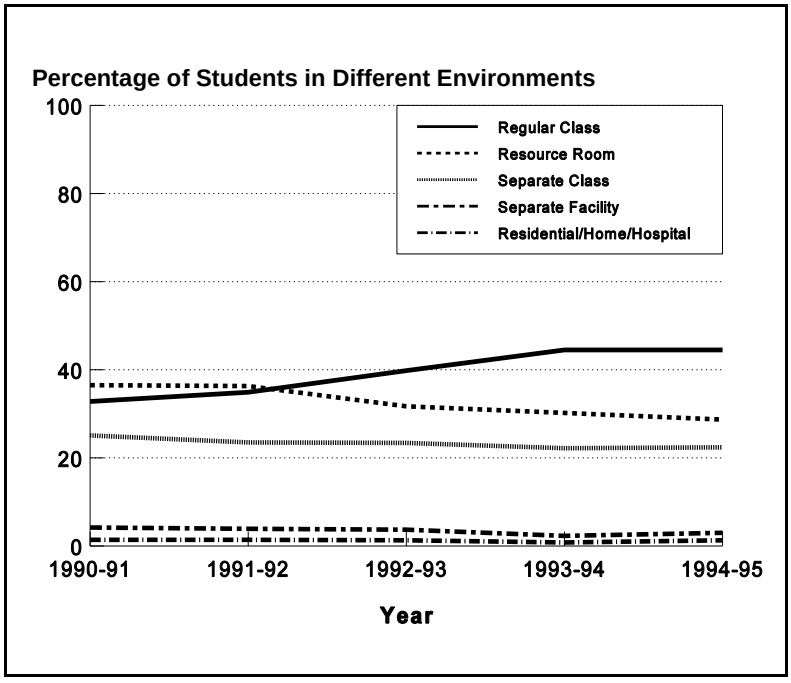
During the past 5 years, the percentage of students with disabilities ages 6-21 served in regular classes has gradually increased--from 32.8 percent in 1990-91 to 44.5 percent in 1994-95. During the same period, the percentage of students served in resource room placements has declined. The percentage of students receiving special education in separate classes for more than 60 percent of the school day, and the percentage served in separate schools have also declined gradually (see figure III-1). In part, some of these changes may be attributed to improvements in State data collection and reporting methods.

Students with Disabilities and Residential Placements

When placement decisions are made for students with disabilities, the first criterion that must be considered is the appropriateness of the placement. The placement must be "reasonably calculated to enable the child to receive educational benefits" (*Board of Education v. Rowley*, 1982). The placement must be based on the IEP and must be in the least restrictive environment, that is, to the maximum extent appropriate, children with disabilities must be educated with children who are nondisabled. Placement in special classes, separate schools, or other removal from the regular environment is only permissible when the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily.

For a small percentage of students, mainly those with severe and profound disabilities, residential settings are considered to be the appropriate placement. These placements are expensive. The issue of who should bear the costs of these placements has been a subject of much debate. For example, one question that has arisen is: should State educational and local school districts have to bear all of the costs, particularly when the placement is based primarily on medical and therapeutic needs? For a more complete discussion about the cost of special education, see "The Costs of Special Education" Section I.4.

Figure III-1
Percentage of Students with Disabilities Ages 6-21 Served in Each Educational Environment: 1990-91 to 1994-95



Source: U.S. Department of Education, Office of Special Education Programs, Data Analysis System (DANS).

During the 1994-95 school year, 35,150 students with disabilities ages 6 to 21 attended public or private residential schools. These students accounted for 0.7 percent of all students with disabilities, a percentage that has remained fairly constant over the past 5 years. Of all the students served in residential facilities, most have serious emotional disturbance (39.9 percent), hearing impairments (18.6 percent), mental retardation (10.0 percent), specific learning disabilities (9.3 percent), or multiple disabilities (9.1 percent). Many States operate public residential facilities for students with visual or hearing impairments, and as a consequence, larger percentages of these students attend public residential schools than private ones. A small percentage of students with disabilities (0.6 percent)

receive services in hospitals or at home. These students typically have other health impairments, serious emotional disturbance, and learning disabilities.

Between 1987 and 2000, OSEP will have awarded 34 statewide systems change grants totaling $42.5 million to increase the physical, social, and academic integration of students with severe disabilities; increase the capacity of State and local educational agencies to provide effective services to students with severe disabilities; empower parents to become actively involved in their child's education; and promote collaboration among parents, students, and service providers. These grants have helped move some students with the most severe disabilities out of public and private day schools and residential facilities into regular classes and schools by increasing the capacity of those schools to meet these students' needs.

Some States that received systems change grants report moving sizeable numbers of students to more inclusive settings. Prior to its Statewide Systems Change project, 15 percent of Michigan's students with disabilities were served in separate schools, more than three times the national average. Project staff report that approximately 5,000 students moved to less restrictive placements during the 5 years of the project. In Colorado, there were about 100 centers for students with disabilities open in the early 1980s. In 1994, after two systems change grants and extensive reform efforts, 80 had closed. Other States have made changes in State policies to support inclusion of students with disabilities, revise preservice teacher training, and change the role of intermediate units from providing direct services to providing program support.

Summary

Gradual progress has been made toward serving larger percentages of students with disabilities in regular class placements, resource rooms, and regular schools. However, that progress has been somewhat inconsistent across disability groups, age groups, and States. Elementary-aged students with disabilities, particularly those with

speech and language impairments, are served primarily in regular classes. Lower proportions of students with mental retardation and students ages 12-17 and 18-21 are served in regular classes. The percentage of students served in regular class placements has increased, and the percentage served in resource room placements has decreased.

When placement in a residential setting is required to provide a free appropriate public education (FAPE), then IDEA requires that it must be provided. However, IDEA also requires that students with disabilities be served in the least restrictive environment that appropriately meets their needs. The percentage of students served in residential facilities has declined very slowly, but constitutes less than 1 percent of all special education placements. The trend toward increasing the number of students in regular classes and the fact that 95 percent of all children with disabilities are served in regular school environments are positive reflections of State and local commitment to IDEA.

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Including Students with Disabilities in Statewide Assessments[1]

Educational reform activities provide unique opportunities for students with disabilities to more fully participate in the educational system. State and local educational agencies are exploring ways to improve the results of education for all students, including students with disabilities. In particular, these agencies are setting high student performance standards, implementing innovative instructional methodologies (including new technologies) to help students reach those high standards, and developing assessments designed to measure the extent to which students are reaching the high standards.

Data from statewide assessments are used not only to measure what students are learning but also to help make decisions about State-level education reform. Data from statewide assessments are also being used as indicators of the level of performance of school boards, school administrators, and school staff, who increasingly are being held accountable for the performance of students on the statewide assessments.

As a result of these actions to improve educational results for all students, larger numbers of students with disabilities are participating in statewide assessment systems. Students with disabilities benefit from participating in statewide assessment systems in several ways:

- By ensuring that students with disabilities participate in statewide assessments, the educational system commits itself to the notion that all educators are accountable for the learning of all students, including students with disabilities.

[1] This module reports on the work of the National Center on Educational Outcomes (NCEO), one of several research centers funded by the Office of Special Education and Rehabilitative Services (OSERS).

- The expectations for students with disabilities are raised. Often, these higher expectations lead to changes in curriculum or educational strategies, or increased use of accommodations or adaptations, to assist these students in reaching higher standards.

- When policy and other decisions are made on the basis of statewide assessment results, the performance of students with disabilities is considered.

In addition, parents want their children to participate in assessments because they realize their children need to know how to do well in assessment situations, which continue throughout life, particularly in employment.

The Status of Statewide Assessments

In 1995 (the most recent year for which data were published), 45 of 50 States administered a statewide assessment to measure the performance of students; another 3 States were developing their statewide assessments (Bond, Braskamp, & Roeber, 1996). Statewide assessments vary widely in terms of the number of assessment components, the content areas and grade levels assessed, the types of assessments used, their purposes, and in how the results affect students, staff, and others.

The participation of students with disabilities in these assessments emerged as an issue in the early 1990s, when it became clear that often such students were being excluded from assessments in which they could have participated (McGrew, Thurlow, Shriner, & Spiegel, 1992; Ysseldyke & Thurlow, 1994). Students were being excluded for many different reasons, ranging from concerns about their test scores lowering overall scores when aggregated with those of students without disabilities, to concerns about the effect of assessments on the self-esteem or emotional health of students with disabilities.

These reasons for excluding students with disabilities from statewide assessments generally have been unfounded. Participation by students with disabilities does not appear

to significantly lower the average performance level of students in a State because the number of students with disabilities who participate in relation to the total number of students who participate in the assessments is not large enough to change the overall average. As far as assessments affecting the emotional health of students with disabilities, many already participate in assessments and seem to benefit from the experience of participating in district and State assessments.

In fact, national and State assessment personnel (Ysseldyke, Thurlow, McGrew, & Shriner, 1994; Ysseldyke, Thurlow, McGrew, & Vanderwood, 1994) indicate that students with disabilities can participate in educational accountability systems in at least three ways:

- in exactly the same way as students without disabilities participate;
- with accommodations in setting, scheduling, presentation, and/or response; or
- in an alternate assessment, designed specifically for students with severe disabilities.

The NCEO is exploring each of these ways to include students with disabilities in statewide assessments. In addition, both the Office of Educational Research and Improvement (OERI) and the Office of Special Education Programs (OSEP) support programs that conduct research on the technical and implementation issues related to participation of students with disabilities in statewide assessments.

In this module, several trends that have occurred since 1990 in practices and attitudes about the participation of students with disabilities in statewide assessments are described. Emerging issues and future directions are also discussed.

Participation in Statewide Assessments

Since 1990, the goals of statewide assessment systems have broadened. In addition to providing information on the performance of students, assessments are used to help design instructional change and assign educational accountability (Bond et al., 1996). States have also begun to hold schools accountable for the educational results of students with disabilities.

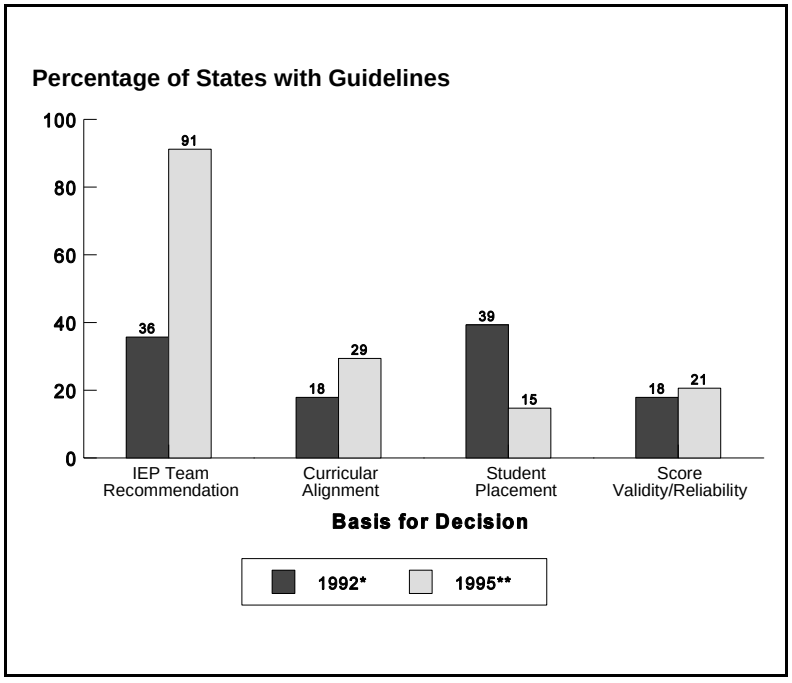
Changes in Practices and Attitudes

Evidence that practices governing and attitudes about the participation of students with disabilities in statewide assessments are changing comes primarily from analyzing State policies concerning assessment. In 1992, 28 States indicated that they had participation guidelines; in 1993, 34 States indicated that they had guidelines; in 1994 and again in 1995, 45 States indicated that they had participation guidelines (Thurlow, Scott, & Ysseldyke, 1995b). Written guidelines provided by 34 States in 1996 showed that many factors are considered when making decisions about the participation of students with disabilities in statewide assessments.

Involving the individualized education program (IEP) team in the participation decision is included in the written guidelines of nearly every State that submitted guidelines. In many States, participation decisions take into consideration curricular alignment (i.e., how well the assessment is aligned with what the student is learning). A few States include consideration of the physical placement of the student (that is, the percentage of time the student is mainstreamed, or whether content is received in a special education or general education class). Finally, a few States consider whether the resulting score will affect the validity or reliability of the measure.

In figure III-2, comparisons of the bases for decisions found in State written guidelines on participation of students with disabilities in statewide assessments are provided. From 1992 to 1995, there has been an increased use of

Figure III-2
Changing Bases for Making Decisions About Participation of Students with Disabilities in Assessments



* Results based on 28 States.

** Results based on 34 States.

Source: Thurlow, Ysseldyke, & Silverstein, (1993); Thurlow, Seyfarth, Scott, & Ysseldyke (1996).

three of the four indicators used. The greatest increase has been in using the IEP team's recommendation when deciding whether an individual child should participate in statewide assessments.

Changing practices and attitudes about the participation of students with disabilities in statewide assessments also are reflected in State policies for the use of accommodations during assessments. Many students with disabilities can participate in State assessments only if appropriate accommodations are provided. Concerns about technical

issues, such as whether scores of students who use assessment accommodations are comparable to scores of students who do not use accommodations, often lead to restrictive accommodation policies, even though the research data necessary to assess the effects of accommodations on instrument validity have not been collected.

In 1992, 21 States indicated they had accommodations guidelines; in 1993, 25 States indicated they had guidelines; in 1994 and again in 1995, 39 States indicated they had accommodations guidelines (Thurlow, Scott, & Ysseldyke, 1995a). Analysis of written guidelines provided by 33 States in 1996 shows that many kinds of accommodations are considered when making decisions about the use of accommodations by students with disabilities.

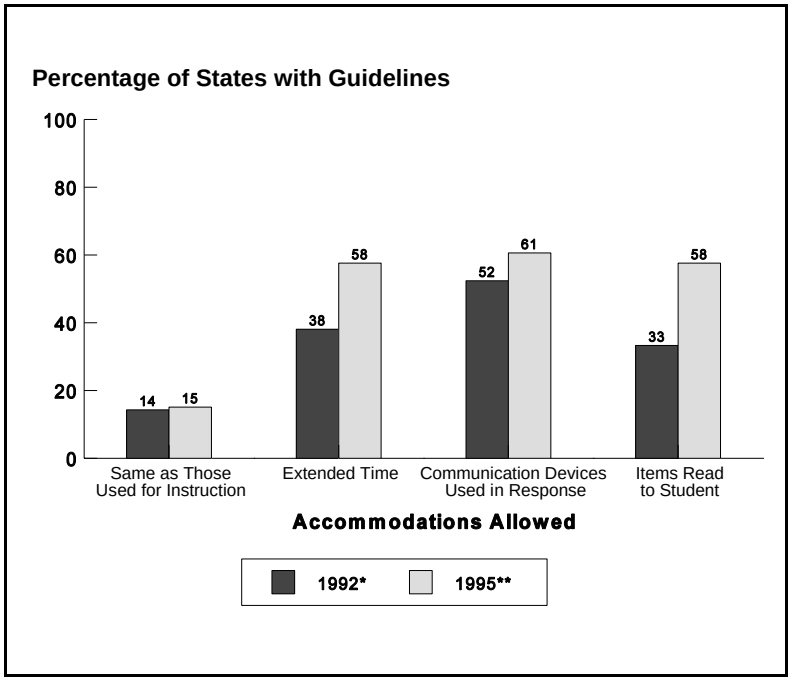
The most frequently used accommodations can be classified into one of four areas:

- setting (taking the test in a separate room, a carrel, or a small group);
- scheduling (such things as extended time, breaks during testing, or testing on certain days);
- presentation (using Braille or large print, sign language presentation of directions, or tape recording directions); and
- responses (computer-generated and scribe-recorded answers, point to answers, mark in booklet).

The specific assessment being administered will often influence the type of accommodations that may be used. That is, an accommodation that is allowed during a norm-referenced assessment might not be allowed during a criterion-referenced assessment.

More often in 1995 than in 1992, States' guidelines contained more specific language as to when certain accommodations might not be allowed. (For example, the guidelines might specify that a reading test could not be read to the student). In figure III-3, we provide comparisons of the

Figure III-3
Changes in Policies for Accommodations Allowed in Statewide Assessments



* Results based on 28 States.

** Results based on 34 States.

Source: Thurlow, Ysseldyke, & Silverstein (1993); Thurlow, Seyfarth, Scott, & Ysseldyke (1996).

types of allowed accommodations described in the 33 States' written guidelines. Although there has been an increase in all four types of accommodations measured, the greatest increase has been in the use of extended time and reading items to students.

State educational agencies (SEAs) have come to realize that determining the participation rate of students with disabilities in State assessments is actually quite complex (Erickson, Thurlow, & Ysseldyke, 1996). Participation rates may vary for different assessments and at different grades. In addition, children may be counted at one time

of the year but have transferred out of the school, district, or State by the time the assessment is administered.

Evidence suggests that in many cases, State personnel can only give general estimates of participation rates. In 1992 and 1993, 55 States and Outlying Areas reported overall participation rates ranging from less than 10 percent to more than 90 percent (see Shriner & Thurlow, 1993; Shriner, Spande, & Thurlow, 1994). However, in 1994, when States were asked by NCEO to provide the participation rates of students with disabilities for *each* assessment the State administered, States were able to provide estimates for only 49 of the 133 assessments administered that year (Erickson, Thurlow, & Thor, 1995). The estimates provided ranged from 4 to 100 percent.

Since 1991, most State educational agencies have come to realize that they have not defined their data elements in a way that facilitates collection or analysis of quality data on students with disabilities. During the past few years, SEAs have begun to add data elements to their files that will enable them to identify students with disabilities. Some States have begun requiring that a test form be completed for every student in a school, so that participation rates are based on actual school enrollments at the time of testing. States have also started to gather data on the use of accommodations, which will help special educators and administrators learn about the types of accommodations that are actually used by students during assessments.

Challenging Issues

States have made much progress in implementing statewide assessment systems that include students with disabilities. However, there are at least three challenging issues still to be addressed. First, States continue to raise questions about maintaining student confidentiality when including data from students with disabilities with data from other students. These questions are most pertinent for schools and districts, where the number of students with disabilities may be small, and it is therefore relatively

easy to match students with learning problems to a particular score.

Second, it is not clear that the scores of students with disabilities who were provided accommodations can be compared with those of students who did not use accommodations. Are these scores similar? Are the scores of students who use accommodations valid? More research must be done to study the effects of accommodations on test validity.

Third, States soon will be struggling with how best to report data. In the past, States often did not report statewide assessment data for students with disabilities, even though the data were available. Data from these students were removed from aggregated scores, yet were still not reported separately to provide information on the status of students with disabilities.

These challenges are being addressed as States begin to systematically evaluate the effect of including students with disabilities in assessments. It is hoped that these efforts will increase the educational system's accountability for all students and that more comprehensive information on how well special education services are meeting the needs of students with disabilities will become available.

Alternate Statewide Assessments for Students with Disabilities

Including a statewide assessment for students with disabilities who are unable to participate in the regular assessment is an important part of designing statewide accountability systems that include all students. However, States have little experience in designing such assessments, and areas of research are still being identified and refined.

Purpose and Nature of Alternate Assessments

The purpose of an alternate assessment system is to measure the learning of those students who are not working toward the standards that are assessed by the general assessment system. Typically, only students with severe cognitive disabilities who are working on educational goals more closely aligned with independent functioning skills should participate in alternate assessments.

At this time, only three States have developed, or are developing, an alternate assessment for students unable to participate in the regular State assessment. Kentucky has an alternate assessment that it has already implemented. Scores obtained on the alternate portfolio assessment used in Kentucky contribute to overall accountability scores, just as scores on the general assessment do. Maryland is field-testing an alternate assessment system that it has developed. Texas is currently developing an alternate assessment system.

Challenging Issues

Significant challenges will be associated with the development of alternate statewide assessments. Research and experiences to date show that at least three types of challenges will have to be addressed at the onset of system development.

First, exactly who should participate in the alternate assessment will have to be determined. There is a potential danger that too many students with disabilities might be administered the alternate assessment when they could take the regular assessment, either with or without accommodations.

Second, the skills or goals to be assessed by the alternate assessment must be defined. If the alternate assessment is to be used for accountability purposes, scores need to be aggregated. In order to aggregate the scores, some common core of learning will have to be identified. A group of stakeholders that includes educators, parents, and policy

makers should reach consensus on the domains of learning that are important for all students in the alternate system.

Third, a way must be found to integrate results from the alternate assessment into the accountability system, which includes results from the regular assessments as well as other types of information, such as dropout rates.

The results of the alternate assessment will also have to be reported. The methods used to resolve the three issues described above will probably also provide a framework for the appropriate reporting of results.

Future Directions

Increasing numbers of students with disabilities are being included in statewide assessments. As clearer guidelines on participation criteria and the use of accommodations are developed, the educational system is likely to be held increasingly accountable for the educational results of students with disabilities. Four developments are of particular interest to State departments of education and other interested parties.

- First, efforts to identify the effects of including students with disabilities in statewide assessment and accountability systems will increase.

- Second, accommodations will become more available, and there will be increased scrutiny of certain accommodations, such as reading aloud, using scribes, clarifying directions, and others.

- Third, alternate assessments will be developed and implemented. Once this takes place, the educational system can begin to be held accountable for the educational results of the students with disabilities who take alternate assessments.

- Fourth, results of assessments that include students with disabilities, and of alternate assessments, will be increasingly included in assessment reports. There is evidence that it may still be a widespread practice to exclude results for students with disabilities from score summaries and reports, even when the students take part in regular assessments (see Thurlow et al., 1995b). The entire educational system will assume greater responsibility for the education of students with disabilities when these students' scores are reported, and as measurement of their performance becomes part of State accountability systems.

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Developing a Partnership Between Families and Professionals

During the past 25 years, a significant shift in philosophy has occurred regarding the relationship between families of children with disabilities and professionals that serve them (Winton, 1994; Turnbull & Turnbull, 1996). Unlike the past, today's professionals consider the family as a unit instead of solely focusing on the mother-child dyad; they also understand there are family issues beyond those related to the child that must be addressed to effectively serve children with disabilities. Now professionals not only consider the needs of the family but also its strengths when developing educational programs that meet the child's needs. This philosophical shift has influenced the development of special education legislation and the relationship between families and professionals.

Involvement of families in decisions about their child's education is a central component of family-school collaboration (Turnbull & Turnbull, 1996), and the role that families can have in the education of their child with disabilities has evolved since the passage of P.L. 94-142. Families of school-aged children served through the IDEA, Part B have tended to be less involved in decisions than those of infants and toddlers served under Part H. Although families of school-aged children served under Part B are entitled to participate in their child's IEP meeting, many do not. A recent longitudinal study conducted in a large urban and primarily minority school district found that parent attendance at IEP meetings decreased over a 3-year period (Harry, Allen, & McLaughlin, 1995). In contrast, family participation is at the core of the Part H program. This emphasis is evident in many ways. One example is the importance given to families at the individualized family service plan (IFSP) meeting for infants and toddlers with disabilities. During these meetings, families are an integral part of the process of designing the IFSP. This perspective is, in part, an outgrowth of the systems perspective of human development,

which emphasizes that children with disabilities do not exist in a vacuum. To comprehend the impact of the disability, one must gain an understanding of the context of children's lives (Turnbull, Turnbull, & Shankon, 1995).

This module describes some of the changes that have occurred in parent-professional partnerships. The first section provides some recent theories related to family functioning. The remaining sections discuss the types of partnerships that have developed as a result of IDEA. The sections include:

- a systems perspective of human development;
- family collaboration in IDEA, Part H;
- family collaboration in IDEA, Part B; and
- the challenge of transition.

A Systems Perspective of Human Development

From a systems perspective of human development, the way an individual acts is a product of the interactions that occur between a person and his or her environment. This section will examine recent developments in family system theory related to the interactions within families and the interactions between families and professionals.

Family systems theory provides a framework for understanding what a family is and how it functions. It also provides professionals with a model of how to collaborate with families. Turnbull and Turnbull (1996) describe three assumptions that are central to family systems theory. They are: (1) the input/output configuration of the system; (2) the concept of wholeness and subsystems; and (3) the role of boundaries in defining systems (Whitechurch & Constantine as cited in Turnbull & Turnbull, 1996). The first assumption explains how the inputs (family characteristics) interact with the system to produce outputs (family function). For example, when a child with disabilities is

born (family characteristics), this places a new set of stresses on the family and may change how family members interact with each other and with individuals outside of the family (family function). The second assumption is that the system must be understood as a whole and cannot be understood by examining only its component parts (Whitechurch & Constantine as cited in Turnbull & Turnbull, 1996). For example, it follows from this assumption that it is necessary to understand the family to understand the child. Finally, the third assumption is that family subsystems are separated by boundaries that are created by the interaction of family members within the family unit and with outside influences. For example, the boundaries set with professionals are likely to be different from the ones set with family members.

Much of the knowledge about the changes in the relationships between parents and professionals that have occurred during the past 25 years can be attributed to the work done by Bronfenbrenner. He stressed that parenting behavior is influenced by environmental factors that are both internal to and external to the family. These parenting behaviors then influence the child's behavior. For example, Bronfenbrenner (1979, as cited in Dunst, Trivette, Hamby, & Pollock, 1990) stated:

> Whether parents can perform effectively in their child-rearing roles within the family depends on role demands, stresses, and supports emanating from other settings. Parents' evaluations of their own capacity to function, as well as their view of their child, are related to such external factors as flexibility of job schedules, adequacy of child care arrangements, the presence of friends and neighbors who can help out in large and small emergencies, the quality of health and social services, and neighborhood safety. (p. 7).

This quotation emphasizes the role that outside influences can have on families. Recognizing that role has been a critical factor affecting many of the changes that have occurred in the parent-professional relationship. It is important for anyone working with families to have an

understanding of family systems theory because it provides a framework for understanding families in an individualized and personalized way. Professionals who possess such an understanding are more likely to be attuned to the families and their strengths, expectations, priorities, and needs. Such an understanding in turn leads to a more effective and collaborative relationship with families--and families are most able to promote students' positive educational results (Turnbull & Turnbull, 1996).

Family Collaboration in IDEA, Part H

In 1986, Part H of IDEA stipulated that a family-centered approach be used in serving eligible children from birth to age 3. Also, a commitment to the parent-professional partnership is embedded throughout the Part H regulations. Part H established the individualized family service plan (IFSP) and required that professionals collaborate with families when developing a plan for the child, consider the entire family when deciding on services, and choose services that strengthen families. As part of these requirements, the IFSP documents the family's resources, priorities, and concerns related to the development of the child (34 CFR §303.344(b)).

In an attempt to measure the degree to which early intervention services are being implemented in a family-centered manner, McBride, Brotherson, Joanning, Whiddon, and Demmitt (1993) conducted semi-structured interviews with 15 families receiving early intervention services and with 14 professionals. A major finding of the study was that over time a shift toward family-centered practices had occurred. All of the families stated that professionals showed concern for the family not just the child with disabilities. Also, the professionals articulated that implementing the IFSP requirements changed their professional practice orientation from child-focused to family-focused. However, when describing their practice, 5 of the 14 professionals discussed goals that were still based on a child-focused orientation. The study also examined the families' role in the decision-making process. Four families deferred decision making to the profes-

sionals, and three families chose to share the role. Ten families believed they could learn the most about their child by observing the professional and answering questions, and more than half the families described their role in the decision-making process as having the final veto power. Finally, many of the families stated their emotional well-being had improved through contact with professionals who showed concern for their emotional needs and with other parents who were in a similar situation.

Another study (Bailey, Palsha, & Simeonsson, 1991) found that professionals were concerned about their changing roles. Results of a survey of 142 professionals working in early intervention programs in two States showed that professionals perceived a moderate level of competence in their ability to work with parents and a higher level of competence working with children. However, as a group, they considered their role of working with families as important. Their primary concerns were how family-centered practices would affect them personally and whether they had the skills to engage in such practices. This study also suggests that the level and type of training given to professionals can significantly influence parent-professional relationships.

Family Collaboration in IDEA, Part B

The relationship between parents and professionals may change when children with disabilities turn 3 and begin preschool. For most families, the setting in which services take place changes from the home to the school. Regularly scheduled private home visits between families and professionals end. Children are served within a group setting, and parents may be invited into the child's classroom. They may take on the role of parent helper or observer. Also, school districts may transition to an IEP to develop goals and objectives for the child instead of using an IFSP to address the needs of the child and the resources, priorities, and concerns of the family. Therefore, the goals and objectives tend to become more child centered than family centered.

Typically, parents of children in primary and secondary special education programs are given less support and have less input into their child's education than parents of children from birth through age 5 (Winton, 1994). However, there are both informal and formal ways (e.g., IEP and individualized transition plan (ITP) meetings) to encourage parent involvement and thereby increase collaboration. Informal involvement includes the many opportunities for parent-teacher communication. This can include written notes between school and home, parent involvement in the classroom and extracurricular activities, telephone contact, technology options such as the Internet, and conferences (Turnbull & Turnbull, 1996). Increasing this communication to include the accomplishments of the child as well as the child's needs is an important part of developing collaboration.

OSEP recognizes the importance of the role that families need to play and is taking steps to promote an increase in the participation of families served through IDEA, Part B and Part H. A four-step plan to strengthen the working relationship between families and schools has been proposed. It includes: "(1) increasing involvement of families in decision making, (2) improving information available to families, (3) linking families to other resources and supports in the community, and (4) reducing adversarial dispute resolution by using mediation" (U.S. Department of Education, 1995).

The Challenge of Transition

There are several important factors to consider when providing services to families. One, as mentioned earlier, is to have an understanding of the family's perspective in order to develop a collaborative relationship between families and professionals. Another is the understanding that one of the most important factors in families' lives is the attainment of certain milestones. Often these life milestones are used to determine when services should be given. These milestones or transitions that occur during one's lifetime can be traced in a variety of ways. Two of these possibilities, as described by Mallory (1996), are developmental

transitions and institutional transitions. Developmental transitions are associated with the maturational milestones an individual reaches in life, such as learning to walk or talk during the first years of life, reaching puberty, child bearing, and having children leave home. Institutional transitions mark the changes of moving from one institutional setting to another. They include events such as entering day care; elementary, middle, or high school; college or miliary service; and the work force.

The timing of when to administer services can be as influential on the family as the services themselves. Social policies have emphasized institutional transitions, which are often independent from the developmental transitions. This can have negative effects on individuals with disabilities and their families. For example, the individual experiencing the transition may lose his or her locus of control and transition from setting to setting, based on institutional transitions that are dictated by social policies such as laws and regulations. The likelihood of this happening increases if the individual has a disability and an assumption is made that the individual is less capable of making his or her own decisions (Mallory, 1996). However, if there is an open dialogue and a partnership between families and professionals, the likelihood of the family or individual losing control is reduced.

Two institutional transitions in special education are the transition from IDEA, Part H, to IDEA, Part B, at age 3 and the transition from school to postschool activities. These are formal opportunities for parent-professional collaboration. The Part B regulations contain provisions for a smooth transition from Part H to Part B (34 CFR §300.154) and for any transitions that take place while the individual is served through Part B or ready to exit any or all Part B services (34 CFR §§300.344(c) and 300.346(b)). The Part B regulations stress parent participation during IEP meetings as well as during transition periods (34 CFR §300.345). Fostering positive interactions during these meetings is especially important. Studies and testimony have shown that schools try to comply with legal mandates and procedures but have not made the effort to foster empowerment through collaboration (Green & Shinn, 1995;

Turnbull & Turnbull, 1996; National Council on Disability, 1995). However, strategies for involvement are being pursued. They include increased efforts to involve families in the assessment process (Winton, 1994) and using collaborative conference techniques to increase parent and student participation.

Parent involvement can have a critical effect on the transition process from school to postschool activities. A study by Morningstar, Turnbull, and Turnbull (1995) found that families greatly influenced decisions made by students with disabilities. With regard to the transition process, students' perspectives about their vision for the future, how to plan for the future, and their self-determination were all influenced by their families. Most of the students based their career plans on input received from parents and extended family members and not from career planning courses in school. Although the IEP process requires transition planning (34 CFR §300.346(b)), with the current format used during IEP meetings, the majority of the students found the IEP process irrelevant. Morningstar et al., suggest that parents' and extended family members' viewpoints be incorporated into the IEP process in a more meaningful way.

Summary

Family systems theory provides a framework for understanding the dynamics that are present within families. Children with disabilities and their families face a unique set of issues, as well as the usual challenges of childhood. Understanding the issues that are important to families is particularly critical when trying to develop a positive relationship between professionals and families. Both formal and informal avenues for collaboration exist. However, open communication is the integral component of developing this important collaborative relationship.

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The Continuum of Options in Dispute Resolution[1]

It is widely acknowledged among educators that multiple approaches are needed to encourage and allow for resolution of educational differences between families and schools. This module will discuss mediation and its growth, goals, and characteristics, as well as alternative mediation approaches. In addition, a brief description will be provided regarding other informal alternative dispute resolution (ADR) approaches used across the country.

Unintended Consequences and Policy Directions

After 20 years of experience with IDEA and State special education laws, many parents and educators have come to the conclusion that due process hearings and court litigation should not be the methods of first choice for resolving educational differences and issues. As Perry Zirkel (1994) and others have noted, the existing due process system has become too time-consuming, overly adversarial, too expensive for all parties, and perceived by parents as unfair.

In response to these and other concerns, States have begun to use mediation and other alternative dispute resolution approaches to resolve educational differences and issues. Although prior to the IDEA Amendments of 1997 there had not been a specific provision for mediation in IDEA, it is mentioned in a note in the Regulations under Section 300.506: "In many cases, mediation leads to resolution of differences between parents and agencies without the development of an adversarial relationship and with minimal emotional stress. However, mediation may not be used to deny or delay a parent's rights. . . ."

[1] This module is an adapted version of Schrag, J. & Ahearn, E. (1996). *Continuum of options and the national experience. NICHCY news digest.* Washington, DC: Academy for Educational Development.

OSERS has long supported using mediation and other less litigious means for settling disputes between families and schools. In the IDEA Amendments of 1997, Congress has now required all States to make mediation available as an option for settling disputes.

Continuum of Alternative Dispute Resolution Procedures

Alternative dispute resolution (ADR) strategies, including mediation, can be placed on a continuum and grouped according to how the decision is reached, who makes the decision, extent of formality, costs incurred, amount of preparation, and extent of privacy provided (see figure III-4 below adapted from Slaikeu, 1989, and reported by Schrag, 1996).

Figure III-4
Dispute Resolution Continuum

Negotiation/ Facilitation Ombuds-person Advocates	Mediation/ Conciliation	Mock/Mini-Trial Pre-hearing Conference	Arbitration	Mediation-Arbitration	Due Process	Litigation
←	←	←	← →	→	→	→
Decisions by the Parties Informal Low Cost Limited Preparation Private				Decisions by a Higher Authority Formal High Cost Extensive Preparation Public		

As shown in figure III-4, ADR strategies being utilized across the country range from informal to formal strategies. Informal strategies include using problem-solving negotiation, often facilitated by an advocate or ombudsperson. More formal ADR strategies include arbitration and due process, in which a neutral party issues an

opinion to settle a conflict or dispute. The most formal ADR approach is, of course, litigation, in which a judge renders a decision regarding a conflict or dispute among the parties.

Growth in Mediation

Formal mediation systems have been implemented in the majority of States. Ahearn (1994) reported that 39 of the 50 States operate special education mediation systems. This compares to 35 States reported in an earlier National Association of State Directors of Special Education (NASDSE) survey (Sykes, 1989). The majority of State mediation systems were initiated in the late 1980s. The first two mediation systems were developed in Connecticut and Massachusetts in 1975. Of the 11 States that did not report operating a State mediation system in the Ahearn study, two were developing formal mediation procedures. Most of the States without formal mediation systems, however, have some form of mediation (e.g., informal pre-hearing settlement conferences, reliance on local district implementation, or other informal mediation procedures (Ahearn, 1994)).

Goal and Characteristics of Mediation

The goal of mediation is to resolve conflicts and differences with the help of a trained, neutral third party. Many different mediation approaches can be used, but all mediation has the following characteristics (Engiles, Baxter, Quash-Mah, Peter, & Todis, 1995):

- It is a voluntary process in which the primary parties must be willing to meet and discuss their concerns in order to negotiate a mutually satisfactory agreement.

- It provides an opportunity and structure for the participants to have a full discussion of issues and to work collaboratively to create solutions.

- It is an empowering process in which the parties are the decision makers and explore issues and design solutions.
- It is a process for mutual problem solving and not for assigning blame or determining fault.
- Confidentiality is guaranteed to both parties.
- Communication and creative problem solving are stressed, with the mediator present to help the parties define the problem, explore each other's interests, and work together to develop a solution, plan of action, or agreement.
- It is future-oriented (i.e., what future interactions, plans, agreements, behavior changes will occur).

Mediation models/options vary in:

- the way local school districts can request or obtain the services of a mediator;
- the presence, absence, and extent of follow-up involvement of the SEA;
- the way mediators are selected and/or assigned;
- scheduling of the session; and
- the amount of time for a mediation session.

Trends and Variations in Mediation Strategies

State and local educational agencies across the country have implemented several methods of using mediation, including using single mediators, co-mediators, and a team or panel of mediators. Based on a 1994 survey of the 50 States, Schrag (1996) reported that the following selected single, co-mediation, and panel mediation models are being used in 39 States.

Eight States have implemented a State mediation model that uses a single mediator (California, Colorado, Connecticut, Florida, Illinois, Massachusetts, Minnesota, and Utah). The individuals who perform the single mediator role within the States are hired and paid in a variety of ways. Ahearn (1994) reported that at least 11 States use SEA employees as mediators (Alabama, Arkansas, Connecticut, Illinois, Iowa, Maine, Massachusetts, New Jersey, Ohio, Rhode Island, and Utah). Massachusetts has several full-time mediators working for an independent bureau, the Bureau of Special Education Appeals. Ahearn (1994) also reported that contracted organizations are utilized in 16 States. For example, Michigan's mediation system is operated through a contract with a third party who manages the system. New Hampshire has relied on trained volunteers to serve as mediators for the past 15 years. Arizona also uses volunteer mediators.

Approximately 13 States have a pool of impartial individuals trained in mediation, including administrative law judges, persons with mediation background, persons with special education background, persons independent from education, and others (Ahearn, 1994). At least seven States--Florida, Georgia, Kentucky, Minnesota, Montana, North Dakota, and South Dakota--have had their mediators trained and certified by the Justice Center of Atlanta, Inc. (JCA).

Mediation involving co-mediators is being implemented in several States. Co-mediation procedures are similar to single mediation procedures. The main difference between the two options is that two people, rather than one person, serve as mediators and facilitate the mediation process. Co-mediators are also being used in some States to train mediators by pairing a less experienced mediator with a mediator with more experience (e.g., Arizona, California, Illinois, Massachusetts, Michigan, and New Hampshire). In addition, several States (e.g., Colorado, Illinois, Massachusetts, and Vermont) have utilized co-mediators in disputes involving multiple agencies or other complex issues.

Panel mediation is a third mediation approach emerging throughout the country. Panel mediation is similar to that of single and co-mediator options. The difference is that a panel (typically three to four persons) facilitates the mediation process. During the late 1970s, the Community Boards Program of San Francisco, Inc. (CBSF), developed a panel conciliation model for use with disputes in San Francisco's diverse neighborhoods. The CBSF model of panel mediation is a structured three-part process of conflict resolution: case development, panel process, and follow-up. This model utilizes trained volunteers in the community to serve on mediation panels. The CBSF currently has a contract with the San Francisco School District to carry out special education mediations.

Under a grant from OSEP, the Direction Service Ombudsperson Project in Lane County, Oregon, is also implementing an adaptation of the panel conciliation model. The Ombudsperson Project utilizes a four-step problem-solving process that is preceded by an opening and followed by a closing, and includes: (1) information gathering, (2) issue and interest identification, (3) option generation and evaluation, and (4) reaching agreement (Engiles, Baxter, Quash-Mah, Peter, & Todis, 1995).

The Contra Costa SELPA (Special Education Local Plan Area) in California has implemented a locally based panel mediation process, called the Solutions Panel, that uses a four-person panel that facilitates special education conflict resolution.

Other Promising Parent-Professional Partnership Projects

A number of State and local educational agencies have implemented parent-professional partnership projects that try to enhance communication between parents and school personnel and minimize disagreements and conflicts. For example, the Arizona SEA has supported several parent support efforts, including PALS (Parents Liaisoning with the Schools), in which parents serve as resources to other

parents to assist in communicating with the schools and resolving differences with them.

The Marquette-Alter Intermediate School District in Marquette, Michigan, has implemented a pilot Parent/Educator Partnership project. The purpose of this project is to train key parents and educators to achieve more effective communication skills. This proactive dispute resolution technique is intended to encourage communication within the local community and to implement resolution-oriented strategies to minimize disputes.

Many schools and school districts have implemented conflict-resolution programs for students and adults. Although not specifically related to special education disputes, using peer mediation has enhanced cooperation and improved the culture within many schools. Annette Townley, Executive Director of the National Association of Mediation in Education (NAME), has estimated that more than 5,000 schools nationwide offer some kind of conflict resolution program (Unpublished handouts provided by NAME). Typical strategies include training students to mediate disputes among their peers, teaching conflict resolution as part of the curriculum, and/or training staff in conflict-resolution skills. The most successful school programs involve both students and educators, because they build a school community in which all members share some common norms and strategies for dealing with conflict.

Staff Development/Training in Conflict Resolution

Several State and local educational agencies have provided workshops, seminars, and other training opportunities focused on conflict resolution skill training for school district staff (general and special education teachers and administrators) and for parents (e.g., communication, problem solving, and conflict resolution). For example, the Illinois SEA provides periodic training for school district personnel and parents in conflict resolution. The Colorado SEA has developed a videotape on conflict resolution for

school district personnel. The Minnesota SEA provides seminars in negotiation and group consensus building.

The Massachusetts SEA has periodically provided training workshops on mediation and negotiation skills for mixed groups of school district personnel and parent advocacy group representatives. Also, the Arizona, Iowa, Massachusetts, Michigan, and Vermont SEAs provide mediation/conflict resolution training for administrators, parents, and advocates.

Summary

An important trend throughout the country is the implementation of a broad continuum of alternative dispute resolution approaches and options. Within this continuum, there is an emphasis on resolving differences as early as possible. Preventative strategies such as parent-professional partnerships, peer mediation, and ongoing staff development are effective in encouraging cooperative school/community cultures.

There is an emerging interest nationally in the use of alternative dispute resolution approaches and options, including the study of strategies currently used to improve and expand options available for successful conflict resolution between families and schools, as well as to identify effective training strategies. However, current research and other forms of documentation regarding the effectiveness of mediation and other ADR approaches and their effect on special education is sparse. Although limited in scope, current data and information gathered by SEAs throughout the country indicate that mediation and other ADR strategies have positive results.

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Monitoring Compliance with IDEA

The IDEA directs the Department to assess the impact and effectiveness of State efforts to provide a FAPE to children and youth with disabilities and early intervention services to infants and toddlers with disabilities. Primarily through OSEP, the Department assists SEAs and local school districts in implementing Federal special education mandates by making grants pursuant to congressional appropriations and providing technical assistance, policy support, and monitoring oversight.

OSEP works in partnership with States, institutions of higher education, students with disabilities and their families, advocacy groups, and others to help ensure positive educational results for students with disabilities. OSEP uses research, dissemination, demonstration, systems change, and other strategies to provide State and local educational agencies with tools to assist them in improving teaching and learning.

OSEP also recognizes the critical importance of its compliance monitoring responsibility and activities to ensure a FAPE for students with disabilities. OSEP places the highest priority on compliance with those IDEA requirements that have the strongest positive relationship with improved services and results for students with disabilities and their families. In addition, OSEP tailors its monitoring and technical assistance activities in each State to maximize positive impact on educational services and results for students in that State.

OSEP has determined that the requirements with the strongest links to positive results and general supervision include those addressing:

- Access to the full range of programs and services available to nondisabled children (and the supports and services that they need to learn effectively in those programs, as determined through the development of an IEP), including regular and vocational

education programs and curriculums and work-experience programs;

- Transition services for students with disabilities beginning no later than age 16 (and younger if determined appropriate);
- Education in the least restrictive environment; and
- Parent involvement in decisions regarding their children's education.

Because each State has general supervision responsibility for all educational programs for its children with disabilities, OSEP focuses its monitoring activities on each State's systems for ensuring that all public agencies comply with the requirements of Part B, including those emphasized above, in providing services to students with disabilities. These systems include: the State's procedures for monitoring public agencies to determine compliance with Part B requirements as they apply to students with disabilities--including students placed by public agencies in private schools or facilities--and ensuring that public agencies correct any deficiencies; the State's complaint management and due process hearing systems; and its procedures for ensuring that special education programs administered by State agencies other than the SEA meet State standards and Part B requirements.

In the 1995-96 school year, OSEP began to monitor some States for compliance with the requirements of the Infants and Toddlers Program under Part H of IDEA. OSEP uses the same basic process to monitor compliance with Part H, that it uses to monitor compliance under Part B: (1) a week-long "pre-site" visit that includes public meetings, small outreach meetings with groups of advocates, and interviews with officials from the State's Lead Agency for Part H and other appropriate State agencies; followed by (2) an "on-site" week, during which OSEP staff review compliance at both the State and local levels.

OSEP's monitoring procedures reflect the interagency focus of Part H. As it does in monitoring for compliance under

Part B, OSEP focuses its Part H monitoring process on requirements that are most closely related to improving results for infants and toddlers and their families. These include requirements relating to:

- Child find and public awareness;
- Service delivery;
- Transition of children at age 3 from programs providing early intervention services under Part H to programs providing special education and related services under Part B.

In working with States to ensure compliance and improved results for students with disabilities, OSEP emphasizes partnerships and technical assistance, together with a strong accountability system. OSEP works with States, Regional Resource Centers, and others to identify systemic strengths and weaknesses and to develop strategies for systemic reform and improvement. OSEP also provides and brokers technical assistance to States on an ongoing basis regarding legal requirements and best practice strategies for ensuring compliance in a manner that ensures continuous progress in educational results for students with disabilities. OSEP uses these strategies for State improvement in conjunction with a multifaceted compliance review process that includes: review and approval of State Plans, on-site compliance reviews, procedures to ensure the effective and timely implementation of corrective action plans, and discretionary review of final State decisions on Part B complaints.

During the past 4 years, OSEP has worked intensively to reorient and strengthen its monitoring system so that it will--in conjunction with research, innovation, and technical assistance efforts--support systemic reform that produces better results for students with disabilities, <u>and</u> ensure compliance. To ensure a strong accountability system, OSEP has emphasized: strong and diverse cus-

tomer input in the monitoring process;[1] effective methods for ensuring compliance with IDEA, with the strongest emphasis on requirements that relate most directly to continuous improvement in learner results; prompt identification and correction of deficiencies; and corrective action requirements and strategies that yield improved access and results for students.

During the 1995-96 school year, OSEP conducted comprehensive monitoring visits to 11 States. OSEP has scheduled comprehensive monitoring visits to 8 States, the District of Columbia, the Virgin Islands, Guam, American Samoa, and the Commonwealth of Northern Mariana Islands, during the 1996-97 school year (see table III-1 for the projected schedule of these reviews; all tables are at the end of this chapter). Table III-2 summarizes the procedures typically used by OSEP to plan and implement on-site reviews. However, OSEP tailors its monitoring and technical assistance activities to the needs in specific States. Thus, some States (e.g., States with relatively few findings in their last review or with findings of a technical nature, and with demonstrable success in completing corrective actions) may require only a more narrow, focused review, while others will continue to require frequent OSEP comprehensive and follow-up monitoring visits.

Thirteen monitoring reports that OSEP issued in FY 1996 (see table III-3 and table III-4) summarize those findings. The findings concentrated in areas directly related to:

- student access to instruction and vocational preparation (e.g., placement in the least restrictive environment, and the provision of a FAPE);[2]

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[1] OSEP uses a variety of methods to involve the families of students with disabilities in the monitoring process, including: public meetings and smaller "outreach" meetings with representatives of groups representing students with disabilities and their families, as part of the pre-site visit to each State; one or more parent "focus group" meetings in at least one of the public agencies that OSEP visits in each State; and inviting a representative of each State's special education advisory panel to participate in meetings held to develop a corrective action plan.

[2] OSEP also made findings regarding requirements related to evaluation of students with disabilities and the development of IEPs. Both sets of requirements and OSEP's findings relate directly to the provision of a FAPE; evaluations serve as a critical source of information for making individualized determinations regarding the program and placement that each student needs, and Congress has mandated the development of an IEP as the mechanism for making such determinations.

- transition from school to employment and other post-school activities;
- procedural safeguards for children with disabilities and their parents; and
- the SEA's exercise of its general supervision responsibility (e.g., monitoring, complaint management, responsibility for special education programs administered by other State agencies and review and approval of local policies and procedures).

Earlier OSEP reports consisted largely of detailed and technical findings regarding the content of local educational agency applications, local educational policies and procedures, and explanations of procedural safeguards. OSEP now collects data and writes reports to stress findings and corrective actions that more strongly affect student results. Thus, for example, data collection and reports include a strong focus on State and local policies, procedures, and practices relating to transition and placement in the LRE.

Prior to the 1994-95 school year, each OSEP monitoring report included a corrective action plan developed by OSEP with limited dialogue with the State. Often States implemented the required procedures with little verifiable impact on services and results for students with disabilities. OSEP found that, to better ensure that corrective actions positively affect student results in a State, it is important to work with the State to develop and define corrective action requirements and to integrate technical assistance with the development, implementation, and evaluation of the corrective actions. While some States completed all required corrective actions, OSEP noted continuing deficiencies when it next monitored those States. Accordingly, OSEP has revised its corrective action procedures to emphasize joint development of corrective action plans, and to provide for technical assistance to support implementation of corrective action, and "follow-up" visits to assess the effectiveness of correction and identify needs for further technical assistance. (See table III-5 for a general description of OSEP's corrective action procedures.)

As part of the extensive technical assistance that OSEP provided to one SEA, it convened a task force to assist the SEA in identifying discretionary grants for which the SEA might be eligible to apply. OSEP has traveled to other States to provide on-site technical assistance regarding complex issues, such as: (1) monitoring procedures to ensure placement in the LRE and (2) ensuring correction of noncompliance in large urban school districts.

As noted in table III-1, OSEP conducted four follow-up visits during the 1995-96 school year to determine the extent to which the State has effectively implemented selected components of the agreed-upon corrective action plan and to work with State personnel to develop any further corrective actions and provide technical assistance needed to ensure full and effective correction. OSEP noted significant progress in each of those States and provided additional technical assistance regarding additional steps that would be needed to reach full compliance. OSEP plans to conduct second follow-up visits to three of those States during the 1996-97 school year, as well as follow-up visits to three additional States. (See table III-1.)

Summary

OSEP recognizes that it is important to focus on both student results and compliance and uses a broad range of technical assistance, partnership, and accountability strategies to ensure compliance, especially with those requirements that relate most strongly to learning opportunities and results for students with disabilities. OSEP tailors its technical assistance and monitoring activities in each State to the needs and strengths of that State, and OSEP's revised monitoring procedures have resulted in monitoring reports and corrective actions that ensure compliance while supporting State reform efforts and improved teaching and learning.

Table III-1
Schedule of On-site Monitoring Reviews

1995-96 Cyclical Reviews	1996-97 Cyclical Reviews
Alabama (9/95)	Texas (9/96)
Indiana (9/95)	Alaska (9/96)
Vermont (9/95)	Maine (9/96)
Kentucky (9/95)	West Virginia (12/96)
Nevada (10/95)	Florida (1/97)
Rhode Island (1/96)	Guam (3/97)
Tennessee (1/96)	American Samoa (3/97)
Kansas (3/96)	Commonwealth of the Northern
Colorado (5/96)	Mariana Islands (3/97)
Georgia (5/96)	District of Columbia (3/97)
Oklahoma (5/96)	Mississippi (4/97)
	Oregon (4/97)
	Missouri 4/97)
	Virgin Islands (5/97)
1995-96 Follow-Up Reviews	**1996-97 Follow-Up Reviews**
Pennsylvania (11/95)	Michigan (11/96)
New Jersey (12/95)	Connecticut (2/97)
New York (12/95)	Massachusetts (3/97)
Missouri (3/96)	New York (3/97)
	New Jersey (5/97)
	Pennsylvania (5/97)

Source: U.S. Department of Education, Office of Special Education Programs, Division of Monitoring and State Improvement Planning.

Table III-2
Typical Steps in On-site Monitoring Reviews

Step	Specific Activities
Step 1: Select States OSEP will monitor following school year	Select States that OSEP will monitor during the following school year. In the spring, inform States that will be monitored the following school year.
Step 2: Conduct monitoring academy and arrange visit dates	Conduct spring monitoring academy for States OSEP will monitor the following year. At the time of the academy or shortly thereafter, arrange dates with each State for public meeting/pre-site visit and on-site visit. Disseminate to national organizations schedule of public meetings and on-site visits.
Step 3: Conduct public meeting/pre-site visit	Send notice to SEA, State and national advocacy organizations, and parents to inform them of upcoming compliance review and the purpose, schedule, and location of public meetings and to invite their oral or written comments. Conduct public meetings, and smaller "outreach" meetings with representatives of groups representing students with disabilities and their families, to gather input regarding appropriate issues and geographical focuses of visit. Meet with SEA officials to plan on-site visit, to collect data regarding State systems for general supervision, and to collect other information to assist in identifying appropriate issues and geographical focuses for OSEP compliance review.
Step 4: Plan on-site data collection procedures	After pre-site visit, continue to receive (and, if appropriate, solicit) comments to assist in identifying appropriate issues and geographical focuses for OSEP compliance review. Analyze and synthesize information from: public and outreach meetings and other comment sources; pre-site meetings with SEA documents (including State plan, monitoring and local educational agency application review documents, placement data, funding formulas, etc.); previous OSEP monitoring report(s) and related corrective action documents; and other relevant information. Use information from public input, preliminary interviews of State officials, and review of State plan and other documents, to determine appropriate focuses for compliance review, to design data collection and verification strategies and forms, and to select State agencies and local educational agencies to be visited to collect data regarding the effectiveness of SEA's systems for general supervision.

Table III-2 (cont'd)

Step	Specific Activities
Step 5: Conduct on-site review	Interview SEA officials and review SEA documents to complete collection of data regarding SEA's systems for general supervision. Interview officials from other State agencies that provide educational and/or residential services to students with disabilities to determine whether the educational programs for such students are under the general supervision of the SEA and meet its standards. Collect data in a number of public agencies, including local educational agencies, to determine effectiveness of SEA's systems for general supervision. (Data collection methods include reviewing student records and interviewing agency administrators, teachers, related service providers, and parents.) Conduct a focus group in at least one public agency in each State to provide parents an opportunity to inform OSEP of their experiences in the development and implementation of an educational program and placement for their children with disabilities. Note exemplary programs and practices. Summarize preliminary findings in exit conference with SEA officials.
Step 6: Prepare and disseminate report	Analyze and synthesize data collected from all sources to determine areas of noncompliance. Prepare report that includes commendations and findings of noncompliance, data that support each finding, and results expected from the corrective actions. Issue report to the SEA and to the public. (If the State concludes that evidence of noncompliance is significantly inaccurate or that one or more findings are incorrect, it may request--within 15 calendar days--reconsideration of the finding. If OSEP agrees, it issues a letter informing the State that the finding is revised or withdrawn.)
Step 7: Develop and implement corrective action plan (CAP)	Work with State to develop CAP. Agree on a CAP, including activities, timelines and needed resources, using the State's preliminary CAP as the basis. This is done in a meeting or conference call with representatives from the SEA, the State Advisory Panel, and OSEP staff.

Source: U.S. Department of Education, Office of Special Education Programs, Division of Monitoring and State Improvement Planning.

Table III-3
Monitoring Reports Issued During Fiscal Year 1996

Louisiana	Indiana	Rhode Island
Ohio	Nevada	Tennessee
Maryland	Vermont	Kansas
Alabama	Illinois	Georgia
	Kentucky	

Source: U.S. Department of Education, Office of Special Education Programs, Division of Monitoring and State Improvement Planning.

Table III-4
Summary of Findings in 13 Fiscal Year 1996 Monitoring Reports

REQUIREMENTS ON WHICH FINDINGS WERE BASED/NUMBER OF REPORTS WITH FINDINGS		
TRANSITION	6	Student and representatives of other agencies likely to be responsible for transition invited to IEP meeting
	2	If student doesn't attend meeting, agency takes steps to consider preferences/interests
	8	Content of meeting notice
	9	Statement of needed transition services
LEAST RESTRICTIVE ENVIRONMENT	10	Removed from regular education only if education cannot be achieved satisfactorily in regular class with supplementary aids and services
	2	Placement determined at least annually
	4	Placement decision based on IEP
	5	Continuum of alternative placements
	8	Student participates with non-disabled students in extracurricular/nonacademic activities
FREE APPROPRIATE PUBLIC EDUCATION	7	Extended school year services
	7	Related services provided to meet student's needs as determined through development of IEP
	1	Length of school day consistent with State standard
	2	Initial evaluation meets State timelines
	1	Services continue if suspended long-term or expelled
PROCEDURAL SAFEGUARDS	1	Agencies establish safeguards
	6	Prior notice or proposed/refused actions provided to parents
	5	Prior notice includes full explanation of procedural safeguards
	4	Prior notice includes other required content
	1	Finality of hearing decision
	7	Hearing and review timelines
MONITORING	6	Procedures to identify deficiencies
	7	Procedures to correct deficiencies

Table III-4 (cont'd)

REQUIREMENTS ON WHICH FINDINGS WERE BASED/NUMBER OF REPORTS WITH FINDINGS		
COMPLAINT MANAGEMENT	5	Complaints resolved within 60 days
GENERAL SUPERVISION	5	Programs administered by State agency other than SEA meet SEA standards & Part B requirements
IEP	2	IEPs are developed and reviewed at least annually in a properly constituted meeting
	1	Agency representative participates in IEP meeting
	5	IEPs include required content
EVALUATION	3	Students reevaluated at least once every 3 years

Source: U.S. Department of Education, Office of Special Education Programs, Division of Monitoring and State Improvement Planning.

Table III-5
General Procedures for Corrective Action

PHASE	ACTIONS TAKEN
MONITORING VISIT	Throughout the on-site process, OSEP discusses preliminary findings and possible strategies for corrective action with the SEA.
MONITORING REPORT	Each monitoring report sets forth parameters for the development of a CAP, specifying expected results of corrective action for each finding. The extent to which each report prescribes the specific steps that the State must follow to ensure correction and specific timelines for each step depends upon a configuration of factors, including the severity of the findings and the persistence of the identified noncompliance (including whether the same violations were identified in a previous monitoring report). The cover letter to each report invites the State to meet with OSEP (in Washington or through a conference telephone conversation) to establish more specific steps and timelines for the CAP. OSEP also invites a representative of the State's Special Education Advisory Panel to participate in the meeting or conference call, and encourages the State to invite additional resource people, such as Regional Resource Center staff, who could assist in the development of the CAP. The cover letter to the report also informs the State that the CAP must be developed within 45 days of the State's receipt of the report, and that if a CAP is not jointly developed within 45 days, OSEP will unilaterally develop a detailed CAP for the State.
DEVELOPMENT AND APPROVAL OF CORRECTIVE ACTION PLAN	State develops preliminary proposals for corrective actions. OSEP monitoring staff consult with other OSEP staff, as appropriate, who are knowledgeable about technical assistance resources, including systems change initiatives, research and dissemination projects, Regional Resource Centers and other technical assistance centers, etc. OSEP meets--in person or by teleconference--with representatives of the SEA, a representative of the State's Special Education Advisory Panel, and any additional resource people invited by the SEA. In the meeting, the participants discuss strategies, resources, and specific action steps for the development and implementation of a CAP that will ensure compliance and support systemic reform resulting in improved student results. The participants work toward--and as much as possible reach--agreement on the specific results, steps, resources, documentation procedures, and timelines for corrective action. Having determined that the State's proposal includes actions and timelines to ensure effective, timely, verifiable correction of all deficiencies, OSEP approves the State's CAP.
DOCUMENTATION OF CORRECTIVE ACTION	The SEA submits information to OSEP to document the effective completion of all corrective actions. Having determined that the submitted information documents the effective completion of all corrective actions, OSEP approves the completed corrective actions.
ON-SITE VERIFICATION OF CORRECTIVE ACTION	When determined appropriate, OSEP conducts an on-site follow-up review to verify effective completion of one or more corrective actions.

Source: U.S. Department of Education, Office of Special Education Programs, Division of Monitoring and State Improvement Planning.

Advances in Teaching and Instructional Design[1]

The past decade has witnessed a "quiet revolution," both in what educators envision as an appropriate education for students with disabilities, and in schools' ability to provide such an education. These subtle but significant changes have been due, in large part, to applied research studies supported by OSEP. Recent advances also have enabled educators to consistently think about a much broader, richer curriculum that supports students' complex thinking, learning, and achievement. Advances have also provided educators with guidelines for strategically and efficiently building proficiencies in reading and writing and mathematics.

This module describes several major advances in the areas of instructional design and teaching for students with disabilities. OSEP has a long history of taking relatively abstract principles from psychology and sociology and utilizing them to develop *feasible* interventions that account for the realities of classrooms and schools (Gersten, Schiller, & McInerney, in press). These interventions, many of which were developed and validated, initially, for children with learning disabilities, can also be used with other students who experience problems related to their academic performance. In general, this module describes interventions validated through research that not only improve students' knowledge but increase both their persistence in learning and their ability to learn from new experiences.

Before discussing these advances, some of the major changes in special education that have occurred in the past 10 years are reviewed. The review provides the context for understanding how research supported by OSEP has contributed to advances in teaching strategies and instructional design for students with disabilities.

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[1] This module reports on work conducted by Russell Gersten at the Eugene Research Institute, one of several research institutes funded by OSEP. The institute conducts research on linguistic diversity, technology, teacher development, and instructional design.

Changing Context for Special Education Teaching

A decade ago, the primary instructional goal for most students with disabilities was *remediation* of deficits in academic skills. Often, even secondary students with disabilities would spend much of their academic day on "drill and practice" in arithmetic computation, spelling, and other academic tasks that rarely demanded use of cognitive skills. Such practices reflected the mistaken belief among many educators that the development of basic academic skills, such as the ability to read, compute, and understand basic mathematics facts, write expressively, and spell correctly, was an essential precursor to development of problem-solving and comprehension abilities. The steady emphasis on the "basics" provided many students with disabilities with an inadequate and unstimulating curriculum. In fact, this practice seemed to backfire in several respects. First, many students failed to really learn basic skills, even after many years of special education (Woodward & Howard, 1994; Parmer, Cawley, & Frazita 1996).

Second, students with disabilities lacked access to a meaningful curriculum. Due to the heavy reliance in many classrooms on textbook-based instruction, students with disabilities (many of whom are not skilled independent readers) were essentially excluded from comprehensible lessons in subjects such as science or social studies (McIntosh, Vaughn, Schumm, Haager, & Lee, 1993). In fact, students were, often unwittingly, deprived of instructional experiences essential for subsequent employment and involvement in society.

Finally, the shift away from a purely remedial model was spurred by the widespread realization among educators that disabilities do not simply "disappear" when students learn how to read or acquire mathematical, writing, or spelling skills. Without question, teaching these necessary skills to students with disabilities is an essential part of special education. However, research consistently demonstrates that many students with learning disabilities will continue to experience difficulties in areas related to

memory, language (especially abstract language), and the abilities required to organize material.

Providing meaningful access to the core curriculum to students with disabilities is increasingly considered a major element of the very purpose of the IDEA. That goal is also related to inclusion of special education students in the ambitious goals and performance standards of *Goals 2000*.

Advances in Teaching Essential Concepts and Building Problem-solving Abilities

The Need for Explicit Instruction

As researchers examined the learning characteristics of children with many types of learning disabilities and related academic problems, educators' understanding of how these children learn contributed to development of more sophisticated instructional interventions. Researchers such as Deshler and Schumaker (1993) and Englert and Thomas (1987) observed that students with learning disabilities were, typically, unaware of the "tricks of the trade" and that proficient learners use problem-solving strategies to organize their thoughts or plan an approach to solve complex problems. Building upon these and other studies, as well as on theoretical models (e.g., Swanson, 1988), special education researchers began to develop and validate instructional approaches that teach such strategies to students with disabilities.

The research of Williams (1992) described a major comprehension problem of many students with disabilities and helped provide direction for instructional interventions. When asked to retell (or summarize) stories, many students with disabilities tended to add seemingly extraneous elements. Williams found that the elements were based upon their personal feelings and their experiences, rather than being derived from the text. In fact, at times, these personal experiences and associations tended to "override" information presented in the book they were reading.

Instructional approaches have been developed to help students *perceive* what others in society view as important. One advance in the past decade is the realization that an important goal of instruction is to show students how the academic material studied is related to their lives (Kinzer, Gabella, & Rieth, 1994) or the lives of others (Harniss, Hollenbeck, Crawford, & Carnine, 1994). When this instructional practice is utilized, retention of material increases.

In summary, the need for explicit instruction for many students with disabilities was derived from the understanding that often students with learning disabilities (or other problems related to academic performance): (1) have a difficult time organizing information on their own (especially abstract information), (2) bring limited background knowledge to many academic activities (especially those involving abstractions), and (3) need a good deal of feedback and practice to retain abstract information.

What Is Explicit Instruction?

To introduce students to complex concepts and to build essential skills in reading and mathematics, teachers, and the instructional materials they use, should be "*explicit* about what needs to be done, or said, or written--rather than leaving it to learners to make inferences from experiences that are unmediated by such help" (Cazden, 1992, p. 111). The purpose of the instructional interventions described in this section is to provide essential structures or frameworks so that students can make sense of new concepts, relationships, and learning experiences. Students are provided with models of appropriate methods for solving problems or explaining relationships, are supported amply during the stages of the learning process, and are provided with adequate practice. Examples are selected so students see the whole range of situations for which a concept is relevant or the wide range of uses of a strategy.

Explicit instruction is an important technique in special education. It provides explicit frameworks for students with disabilities to use as they write or study or engage in

group activities. The explicit frameworks offer a shared language that teachers and students can use as they engage in cognitive activities and as they work with one another (Mathes, Fuchs, Fuchs, Henley, & Sanders, 1994). The ultimate rationale is that by immersion in a learning environment that is rich in clear, explicit discussions of relationships, and full of a systematic use of relevant examples, students increasingly make linkage on their own.

The principles of explicit instruction, described in table III-6, were adapted from Carnine, Jones, and Dixon (1994), and Gersten, Carnine, and Woodward (1987). Because instructional design research continues to evolve, and the principles shift from one academic domain to another, no one set of principles is exact.

Table III-6
Principles of Explicit Instruction

- Providing students with an adequate range of examples to exemplify a concept or problem-solving strategy;
- Providing models of proficient performance, including step-by-step strategies (at times) or broad, generic questions and guidelines that focus attention and prompt deep processing;
- Providing experiences where students explain how and why they make decisions;
- Providing frequent feedback on quality of performance and support so that students persist in activities; and
- Providing adequate practice and activities that are interesting and engaging.

An Example of Explicit Instruction: Preventing Reading Failure in the Early Grades

Recent research by O'Connor, Notari-Syverson, and Vadasy (1996) has addressed prevention of reading failure in a fashion consistent with the instructional design principles.

Students spend time each day engaged in series of *phonemic* activities (i.e., activities that build students' knowledge of letter sounds, their understanding that words are composed of such sounds, practice in composing sounds into real words, and breaking real words into component sounds). Increasingly, research suggests that students must develop phonemic awareness in order to become readers. Though some students develop this awareness on their own, it often does not occur for students with disabilities.

The activities that served as the basis of the reading interventions can be thought of as more systematic components of activities that teachers always have done with kindergartners. Two examples are using Dr. Seuss books to introduce the concept of rhyming and focusing children's attention on the first letter sound of common words. What distinguishes the instructional activities of O'Connor et al. (1996) is adherence to several key instructional design principles. The first is related to the instructional design principles of example selection (Carnine, 1994). Students begin with easy, clear instances of these principles and then move on to more subtle and difficult examples. In addition, they receive adequate numbers of examples each day, so that even students with erratic attention spans and weak memories still grasp the principles. The second is that the new principles and skills are practiced and reviewed so that they become automatic for students. This is particularly important when teaching phonemic skills (O'Connor et al., 1996). Student engagement is increased by the variety of activities, the game-like nature of many of the activities, and the fact the students are asked to do most of the work.

Advances in Cognitive Strategy Instruction

A major technique adopted by many educators who use explicit instruction has been cognitive strategy instruction. In the words of Harris and Pressley (1991, p. 395), "Strategy instruction provides students with their culture's best kept secrets about how to obtain academic success." It teaches strategies many students either would not discover

at all or would discover only after a great deal of frustration and failure. These strategies, some relatively complex, others seemingly quite simple, are typically derived from observations of how competent students perform these tasks. The goal is to provide students a structure or a series of steps they can use to help them distinguish important from less important material (to be reminded of how others organize themselves and their resources to complete the task successfully). These strategies can be applied to a variety of academic areas, including expressive writing, reading comprehension, mathematical problem solving, and scientific reasoning.

Typically, students are first taught a plan of action to utilize when pursuing a cognitive goal. In the second, most extensive phase of instruction, students must learn to use the plan proficiently. Students receive feedback from their teachers or peers and learn from watching fellow students how to utilize the same plan of action.

Another critical aspect of cognitive strategy instruction is the development of *routine*, or the virtually automatic use of strategies. Concurrently, teachers attempt to build a sense of "ownership" by the students. In other words, students are encouraged to make minor shifts in the strategy, to streamline it, and to expand on facets of interest. Teachers convey a sense that there is not one precise method but that methods can and should be evaluated and discussed.

Metacognitive knowledge is "an understanding of where and how to use it" (Harris & Pressley, 1991, p. 398). Metacognitive knowledge develops from observing the efficacy of the strategy through repeated use of learned strategies. Through this lengthy process of learning and using strategies, the individual modifies them, and ultimately invents new strategies based on the old. The goal of strategy instruction is to help students understand when and how to apply a particular strategy. This is very important for students with learning disabilities because this is precisely the domain in which they have the most problems--learning how to apply what they know to novel situations.

In the following sections, a number of research-based examples of cognitive strategies are presented.

Procedural Facilitators: A Means to Deep Processing of Text

Procedural facilitators (or procedural prompts) are a series of questions that teachers use on a daily basis with a group of adolescents with reading disabilities to promote deep processing and understanding. The questions are structured, but the students are allowed great latitude in their approaches to them.

Procedural facilitators for reading comprehension are both cognitive (examples 1 and 2) and metacognitive (examples 3 and 4). As shown in table III-7, they encourage students to link what they read in the text to their background knowledge (example 2). In addition, each student's perspective is continually valued (example 5).

Table III-7
Examples of Procedural Prompts for Reading Comprehension

1. "How does _____ affect _____?"
2. "What is a new example of _____?"
3. "What do you find most difficult in the passage you just read?"
4. "How can you try to figure this out?"
5. "Tell me what you learned from reading this. . .what were the main points, the most interesting things?"

Adapted from Anderson and Roit (1993).

During reading class, for example, the teacher would clarify that each student's responses to the questions in table III-7 are likely to be different from each other as well as different from those of the teacher. In this way, the students' "images are personal" (Harris & Pressley, 1991, p. 396). However, students need to be able to discuss and justify their decisions. This discussion led to the type of *deep processing* that promotes comprehension.

Story Grammar

Another commonly used cognitive strategy, *story grammar*, is an example of what researchers call a text structure. Research by anthropologists has found that when people tell stories, their narratives follow certain set patterns. These patterns are called *story grammars*. To increase students' understanding of the stories they read, they are explicitly taught the elements of story grammar and asked to apply them to subsequent stories. Table III-8 contains a sample story grammar adapted from Harris & Pressley (1991).

Table III-8
Example of Story Grammar Questions

1. Who is the main character? Who else is in the story?
2. When does the story take place?
3. Where does the story take place?
4. What does the main character want to do?
5. What happens when he or she tries to do it?
6. How does the story end?
7. How does the main character feel?

Adapted from Harris & Pressley (1991).

Whereas proficient readers usually assimilate key elements as they read, some students with disabilities fail to do so. By systematically teaching these elements, students can begin to grasp the essential elements of literary analysis. The teacher and the class can "work through" how the elements fit together and how they lead to a potential theme. The story grammar elements provide a common language so that teachers can help students organize what they have read. It also provides them with a means to discern what is important and what is not as important; in other words, a means to prioritize. This strategy has been shown to enhance the comprehension of short stories by students with learning disabilities (Gurney, Gersten, Dimino, & Carnine, 1990; Harris & Pressley, 1991).

Think Sheets To Promote Effective Writing

Several cognitive strategies use "text structures" for factual (expository) material. Like story grammar, text structures have been used to increase comprehension and promote expressive writing in history and science. For example, the *compare-contrast* text structure has been used successfully to assist some students with disabilities in the elementary grades in "getting started" in the writing process (Englert et al., 1992).

A *problem-solution-effect* text structure is another example of a cognitive strategy which has been used successfully as a basis for teaching American history to students with learning disabilities (Harniss et al., 1994; Kinder & Bursick, 1993). Using this text structure, students view historical events as problems facing groups of people. They learn to articulate the problems, the attempts a nation or group of people took to attempt to solve their problems, and then evaluate the success or failure. Students are encouraged to view this event from multiple perspectives. In other words, they may view the American Revolution from both the colonists' and the British perspective or analyze the Russian Revolution from the perspectives of a factory worker and a landlord.

Learning Through Experience: Research on Anchored Instruction

Numerous researchers have used advances in cognitive science research to design an innovative instructional approach called anchored instruction. Anchored instruction is described as follows: "situating or anchoring instruction involves recreating some of the advantages of the informal learning environments like those that occur in. . .apprenticeships. . .These permit sustained exploration by students and teachers (that). . .enable them to see and understand how information and knowledge can be used as tools for real-world problem-solving" (Cognition and Technology Group at Vanderbilt Learning Technology Center, 1993, p. 121).

This section describes research projects that show promise for enhancing engagement of students with disabilities in learning, motivation, and genuine understanding of abstract concepts. These studies address several learning problems that many students with disabilities experience. The first is the issue of enhancing students' *intrinsic* motivation--their ability to expend adequate intellectual energy in learning activities. The second is retention and transfer. As previously noted, students with disabilities often have great difficulty remembering what they have previously learned and using it in novel situations.

Applying Principles From Science and Mathematics to Real World Problems

There are several possible methods for increasing retention and enhancing transfer of skills learned. Two recently conducted research studies that have several features in common are described below. In both cases, the researchers first taught students the essential academic concepts explicitly and then engaged them in a strategy called authentic problem solving. In one case, the concepts were from biology, in the other from mathematics.

In the first study (Hollingsworth & Woodward, 1993), students were given an array of scenarios or health profiles of individuals and asked to describe what their problems were and what steps should be taken to prevent serious health problems. Often these problems involved prioritization (e.g., weighing the importance of cutting down on smoking versus increasing exercise to reduce the risk of cancer). Students were provided with a series of procedural facilitators to help them with the problem-solving process. The students with disabilities not only performed well on these problem-solving exercises but also remembered the core biology information significantly better than the students taught with more traditional methods.

Similarly, in mathematics, Bottge and Hasselbring (1993) found that by providing students with "anchored instruction," that is, an array of real-world problems in which they could practice and expand upon their knowledge of mathe-

matical operations involving fractions, students were able to transfer their problem-solving abilities to new situations. In this study, the students applied their knowledge of fractions as they learned how to build a kite frame from a plan and a materials list, with only a limited amount of money with which to purchase materials. The instructor used a series of procedural prompts to help support the students when they experienced difficulties.

Increasing Student Engagement in Learning Through Peer Tutoring

The importance of students' active engagement in learning and its relationship to increased achievement in areas such as reading and mathematics have long been known. Recent longitudinal research (McKinney & Osborne, 1993) has demonstrated that regardless of current levels of academic performance, the ability to persist on academic tasks was a key predictor of how well and how much students learn in school. In the past decade, major initiatives have attempted to train teachers in methods that increased students' engagement in learning. However, educators now realize that engagement often increases dramatically when teachers break out of the lecture-recitation mode and use peers to teach others (Greenwood et al., 1992) or to work collaboratively on academic projects.

Classwide peer tutoring techniques are based on direct observations of student performance in the classroom by special education researchers, such as Greenwood and colleagues at the University of Kansas (1992). This body of observational research consistently demonstrated that some students with disabilities were rarely engaged in academic activity in general education classrooms. Delquadri, Greenwood, Whorton, Carta, and Hall (1986) describe a typical special education student in a fourth grade class, whom we will call Juwan.

When first observed, Juwan was engaged in reading for only 8 of the 60 minutes of the reading period. He ". . .was seldom called on by the teacher to read or answer questions, instead the child passively watched the teacher pro-

vide instruction" (p. 536). However, with intensive instruction from a reading specialist, Juwan's academic engagement dramatically quadrupled. His growth in oral reading grew at a corresponding rate, tripling his oral reading accuracy rate.

Juwan's progress underscored the importance of academic engagement for students' academic growth. However, Greenwood and his colleagues (1992) realized that intensive one-on-one instruction was not always possible for the large number of students in need of assistance--nor was it necessarily always desirable. So they began to experiment with the concept of students working with each other on many of the activities that students normally work on individually. For example, students were asked to practice reading to each other, to answer questions for one another, and to provide feedback for each other. Over 40 studies conducted in classrooms across the country have demonstrated that use of classwide peer tutoring can dramatically increase the amount of time students with learning disabilities spend engaged in learning. The data also indicate strong and significant growth in achievement among students who had previously experienced difficulty learning.

The effect on students with disabilities was, initially, examined in a series of controlled experimental studies. The approach was then refined and expanded to include a wide range of academic areas and age groups. Although ongoing data collection and recordkeeping were crucial to earlier research, current approaches place much less emphasis on these. Similarly, contemporary approaches allow teachers to use a wide range of implementation strategies. In a sense, the original concept of peer tutoring has been adapted to "fit" the realities of various learning situations. In addition, it is important to note that the improvement experienced by students with disabilities in classes that used peer tutoring is roughly equivalent to that made by their nondisabled peers (Mathes et al., 1994).

In summary, the advantages of classwide peer tutoring include increased engagement in reading and mathematics, opportunities to share information with and provide feedback to peers in a private fashion, and oppor-

tunities to build the fluency in and familiarity with the core basic skills essential for comprehension or problem solving.

Summary

During the past decade, significant advances have been made in instructional design and teaching strategies that enhance the access of students with disabilities to complex concepts. Innovative instructional research has been shaped by many sources, including advances in cognitive science, classroom observational research, and descriptive studies of the learning characteristics of students with disabilities.

Building on well-established instructional design principles, many of which were developed initially in the 1970s and 1980s, special education for many students with disabilities has shifted from a primarily remedial emphasis to a more balanced approach that includes systematic development of reading and mathematics proficiency simultaneously with instruction involving abstract concepts. Students are provided an array of explicit strategies for learning, as well as explicit presentations of relationships among conceptual ideas and themes. Invariably, there is a system or logic to the instruction. As a result, students have opportunities to see numerous examples of the strategy or numerous instances of the concept, can verbalize their understanding, and can receive feedback on their responses. In addition, educators increasingly understand the benefits of structuring classrooms so that students are actively engaged in learning with their peers as well as thoughtfully engaged in learning with their teachers.

As research continues to provide information about these principles of instructional design and teaching, innovative interventions and approaches are, in the words of Harris and Pressley (1991), "unlocking the secrets" of learning for many students with disabilities. These advances are supporting the development of abilities in expressive writing, mathematical problem solving, and other higher order

intellectual processes that help prepare students with disabilities for lifelong learning and achievement.

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Advances in Technology for Special Education[1]

Remarkable progress has been made during the past 10 years in using technology to meet the needs of students with disabilities. Research projects in this field have primarily been funded through the U.S. Department of Education, OSEP. Researchers in special education and software developers have demonstrated that technology can dramatically improve the quality of a student's life and allow access to more complex learning environments. Challenges once considered daunting now are surmountable for many students with disabilities, and technology is allowing them to become more productive workers and active, independent learners. A comprehensive analysis and discussion of these trends has been recently described in a historical review of technology research in special education over the past decade.[2] What follows are some of the highlights of that report.

Technology Use for Students with Severe Cognitive and Physical Disabilities

Some of the most striking examples of how technology has enhanced the lives of students with disabilities during the past decade include the ways researchers have customized technology to meet the needs of students with severe cognitive and physical disabilities. At times, the solutions to the everyday problems that confront these students are seemingly obvious and "low tech" in nature.

Specially designed everyday items such as pencils, scissors, and silverware--all technologies at one level--are examples of these types of solutions. These solutions,

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[1] This module reports on work conducted by John Woodward at the School of Education at the University of Puget Sound. The research described in this report was funded through OSERS, public school districts, and the Microsoft Corporation.

[2] Woodward, J. & Rieth, H. (submitted for publication). An historical review of technology research in special education. *Review of Educational Research*.

which all require time to design and manufacture the implements and a commitment to train the student in their use, can result in considerable independence for young learners.

Other students require more novel solutions, and researchers have found ways to apply technologies which were until only recently available to corporations and the military. Voice recognition and word prediction systems, virtual reality, and expert systems have all rapidly declined in cost over the past 10 years and have become widely available for a variety of purposes.

Researchers at Utah State University (Hofmeister et al., 1994), for example, have developed an expert system program that can help service providers such as teachers and school counselors identify solutions for a wide range of student behaviors. The system allows teachers to access in-depth descriptions of problems such as teeth grinding or self-injurious behavior in persons with moderate retardation and can also present them with research-based remediation programs tailored to the teacher's skill level (i.e., the teacher's capacity to deliver the recommended program of instruction). Because it adjusts its output to the teacher's skill level, the expert system does not recommend remedies the teacher cannot implement.

In the past, teachers or care providers addressing a student's behavior problem would have to investigate it in any one of a number of complex manuals and then search the professional literature for appropriate interventions. This process was time-consuming and often ineffective. The expert system program developed by the Utah researchers has dramatically reduced the time required to identify appropriate interventions and has been able to offer a significant level of professional development at the same time.

Researchers at the University of Delaware (Brown & Cavalier, 1992) have used voice recognition systems for individuals with severe disabilities as a way of enhancing communication. Although voice recognition has commonly been used as an alternative to keyboard input for desktop

Figure III-5
Example of the Use of Voice Recognition Systems

Sue is a individual with profound mental retardation and cerebral palsy. Given her condition, what appears to us as "the simple things in life" are of profound importance to her. She enjoys watching home movies on a TV mounted above her bed, images of her sister showing off her new car, her mother giving the family dogs a bath, and her little nephew dancing in the kitchen. She recognizes the figures, and with sounds nearly unintelligible to most people, she calls them by name and laughs with glee.

Recently, Sue has learned how to control these images and communicate with other devices in her environment through a simple application of a voice recognition system. By learning some basic commands, Sue was able to control a variety of appliances such as a VCR, an audiocassette player which reads the pages of her favorite storybooks, her massage pad which she often lies on, and a radio tuned to her favorite country western music station.

This is a marked change from life in her residential facility where most adults had abandoned virtually any effort to engage her in meaningful activities because they had no sense of her needs. Since the voice recognition system was installed, care providers have noticed a significant change in her behavior. She's more alert and animated. The staff even feels that she can do more on her own, and partly as a result of these changes, she has moved to a less restrictive environment near her family.

computers, it can also be used to control everyday appliances. By training students with severe disabilities to produce a limited number of commands in a consistent manner, they can gain greater control over their surroundings, as demonstrated by the example in figure III-5.

Applications of virtual reality and word prediction systems offer even more remarkable examples of how technology can fundamentally change a student's day-to-day experiences, leading to greater success and independence.

Research conducted at the Oregon Research Institute (Inman, 1996) in Eugene, Oregon, shows how students with cerebral palsy can learn to navigate wheelchairs in a safe "staging ground" of narrow corridors, desks and chairs, and crowded sidewalks contained in a virtual

environment before attempting to navigate them through the real world. The potential for using virtual reality to teach students with physical disabilities how to perform common tasks safely while they receive a considerable level of practice and feedback from an assistant is immense.

Word prediction programs enable mainstreamed students with physical disabilities to complete ordinary tasks such as writing. In one study recently conducted by researchers at the University of Oregon (Todis, in press), a fifth-grade girl with cerebral palsy used a word prediction program to complete daily assignments that were once almost impossible for her to do. Before she started using the word prediction program, the student was only able to use one finger to type assignments on the laptop computer attached to her wheelchair, and she found it very difficult to finish her assignments on time. Now that she uses the word prediction program, she can type the beginning letters of a word and the computer will generate a list of words that use those letters. The girl can then choose the appropriate word rather than laboriously typing it out. This feature of the word prediction program has allowed her to complete assignments on a timely basis.

Technology Use for Students with Mild Disabilities

Providing adequate instruction for students with learning disabilities has become one of the central challenges to public education over the past decade. Increasingly, these students are taught in a variety of learning environments and spend the majority of their day in their general education classrooms. For these students (as well as those with attention deficit disorders, behavior disorders, and mild mental retardation), acquiring basic skills at the same rate as their peers who do not have disabilities is a perpetual problem.

During the past 10 years, a number of ways have been found to design or modify software programs so that students with disabilities can learn basic skills more readily. For example, an important skill any student must have

before he or she can study any advanced level of mathematics is a mastery of math facts. The number of students in middle schools who still do not know their multiplication tables is a common lament in the media. A large part of the problem is that students are often overwhelmed with the number of facts they must learn at any one time. Because they must memorize 100 separate facts in a short period of time, students rely on finger counting, guessing, or they simply give up.

In response, special education technology researchers at Vanderbilt University in Tennessee (Hasselbring, Goin, & Bransford, 1988) created a drill and practice program that carefully pretests students on what they already know and then gradually introduces a small set of facts for instruction. Once the student masters the first set, new facts are introduced along with a random but limited number of old facts. Microcomputers are well-suited to this kind of instructional management, and they provide the consistency and controlled practice--not to mention the time--that usually is not available in the classroom. This program is now available as a commercial product. Other researchers have conducted similar work in vocabulary instruction (Johnson, Gersten, & Carnine, 1987) as well as basic skills practice on fractions, decimals, and ratios, using microcomputer and videodisc programs (Moore & Carnine, 1989). The students using these programs show significant gains in the acquisition of basic skills.

Reading is one of the most difficult academic skills for many students with disabilities. Early research at Florida State University (Jones, Torgesen, & Sexton, 1987; Torgesen, Waters, Cohen, & Torgesen, 1988) indicated that the different presentational features of the microcomputer--text, sound, and graphic animation or pictures--could be used effectively to teach students with learning disabilities how to read or “decode” words. Later efforts showed that using a microcomputer to read words back to students through a speech synthesis program was a particularly promising way to enhance beginning reading instruction.

Work in the early 1990s showed that microcomputer instruction could also be an effective medium for helping students understand or comprehend textbooks. Understanding these texts has always been a particularly crucial issue for students who struggled with the large amount of information and challenging vocabulary so often found in social studies and science texts.

Through widely available commercial programs like *Hypercard*™ from Apple Computers, researchers at the University of Las Vegas, Nevada (Higgins & Boone, 1990, 1991), can make traditional printed text more "dynamic" for students with learning disabilities. Programs like *Hypercard*™ allow the user to click buttons or boldface text, link directly to other text or graphic information, and display it. This idea is widely used today as millions of Americans scan the Internet with user-friendly browsers that allow them to jump from one source of information to the next. By using a *Hypercard*™ version of the traditional text, a student can click on the word "monument," for example, and a definition of the word or a picture of a monument like the Jefferson Memorial appears on the screen. Appropriate definitions or pictures that are based on the context in which the word appears can be added. Similar efforts that use flexible software authoring programs like *Hypercard*™ to modify traditional texts have been developed by researchers at the University of Maryland (MacArthur & Haynes, 1995).

When students reach middle school and high school, they are expected to complete assignments that are increasingly sophisticated in nature. Students are expected to write brief papers that interpret short stories or important historical events. They must also be able explain mathematical concepts, particularly as they appear in the context of everyday events. To be able to complete these types of assignments and begin to acquire the level of literacy required in an information society, students must have mastered basic skills such as math facts, how to spell or decode words, and how to write complete sentences.

Multimedia methods of instruction for middle school students with learning disabilities on historical topics, such as

the Civil War, the American Revolution, and the Industrial Revolution, have also been developed at the University of Delaware (Ferretti & Okolo, 1996; Okolo & Ferretti, in press). These students often have difficulty learning from traditional textbooks, which often present historical topics in a superficial and highly descriptive manner. Students with learning disabilities are easily overwhelmed by the large number of names, facts, and dates cited in traditional textbooks. However, many students with learning disabilities are visual learners. Therefore, multimedia presentations such as those just described allow the student to grasp information more easily and at a deeper level.

The researchers taught students with learning disabilities how to collect information on American history topics from a variety of sources, such as CD ROMs, Internet files, audiovisual presentations, and other sources that use different vocabularies or visual presentation strategies that are easier to read and comprehend. The students learn to use user-friendly, commercially available software for personal computers to organize their various source materials into a multimedia presentation that contains written text and visual images. For example, students compose a multimedia presentation based on an interpretation of or argument for the various causes of the Civil War. The special education researchers felt that teaching students to synthesize information and construct defensible arguments, rather than just restate facts presented in the textbooks, is of critical importance, because doing so generates greater student interest, increases motivation, and provides the opportunity to develop higher-order thinking skills.

In an effort to teach secondary students with learning disabilities the kinds of skills and knowledge needed in the workplace, researchers at the University of Puget Sound in Washington (Woodward & Baxter, 1997) have designed an integrative approach to teaching mathematics and writing. The project teaches students how to collect and analyze data, communicate effectively both orally and in brief written communications, and work with others in small groups or teams.

The mathematics instruction teaches the students to understand concepts such as fractions, percents, ratios, and their applications in everyday settings (e.g., the students may operate a mock business). Moreover, students learn to use calculators and spreadsheets--two widely used technological tools in the workplace--to solve problems. Students communicate their findings orally, and in one-page reports that often contain data and charts. Students use the program Microsoft *Works*™ to do much of the work, and Microsoft Corporation provides support for the project and helps disseminate curricular products.

Summary

Technology-based research and development projects funded by OSERS during the past decade have helped a wide range of students with disabilities achieve better educational results and more independence. Researchers have been able to tailor specialized applications of common as well as novel technologies to meet the unique needs of students with severe disabilities. Their solutions have resulted in increased mobility and independence, enhanced communication, and improved capacity to participate in regular classrooms.

For the larger number of students with disabilities such as learning disabilities, attention deficit disorder, behavior disorders, and mild mental retardation, advances in technology-based instruction have helped these students master basic skills and develop higher-order thinking skills. Technology can provide the time and the appropriate level of practice that enables students with disabilities to develop higher skill levels in spelling, beginning reading, or math facts, which many students have difficulty mastering. Students can also use various technologies to help them solve problems and to complete complex assignments. In the future, as more innovative technologies, particularly multimedia tools, become commercially available, research on using technology to teach students with disabilities may influence the way educators think about using technology in education for all students.

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