I. RESULTS

High School Graduation Among Students with Disabilities

Participation and Performance of Students with Disabilities
in State Assessment Systems

Challenges To Providing Secondary Education and Transition
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Issues, Predictors, and Practices

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Intervention

High School Graduation Among Students with Disabilities

The Office of Special Education Programs (OSEP) establishes goals, objectives, and performance indicators in accordance with the Government Performance and Results Act (GPRA) to measure progress in improving results for students with disabilities. One of the objectives included in the U.S. Department of Education's 2001 Annual Plan is that secondary students with disabilities will receive the support they need to complete high school prepared for postsecondary education or employment (U.S. Department of Education, 2000). The percentages of students with disabilities who graduate from high school with a standard diploma and who drop out of high school are important indicators of progress toward this objective. Accordingly, this module reports graduation and dropout information for students with disabilities for the 1998-99 school year and examines trends in graduation and dropout rates over the past few years. In addition, the module discusses graduation and dropout rates by disability category and by race/ethnicity.

## Graduation and Dropout Rates for Students with Disabilities

According to the National Center for Education Statistics (NCES, 2000), high school graduation, completion, and dropout rates may be calculated in a number of different ways. OSEP is particularly interested in the rate at which students with disabilities graduate from high school with a standard diploma.

One method of calculating graduation rates is to divide the number of students age 14 and older who graduated with a standard diploma by the number of students 14 and older who are known to have left school (i.e., graduated with a standard diploma, received a certificate of completion, reached the maximum age for services, died, or dropped out). This is the formula OSEP uses to establish performance indicators under GPRA.

Graduation rates for students with disabilities age 14 and older have climbed steadily since 1993-94, as illustrated in figure I-1. At the same time, the dropout rate among these students has declined.

In 1993-94, the dropout rate was 34.5 percent. By 1998-99, that rate had reached a 6-year low of 28.9 percent. This rate was somewhat better than OSEP's target dropout rate of 31 percent (U.S. Department of Education, 2000). Dropout rates are presented in figure I-2.

Figure I-1
Percentage of Students Age 14 and Older Graduating with a Standard
Diploma, 1993-94 to 1998-99
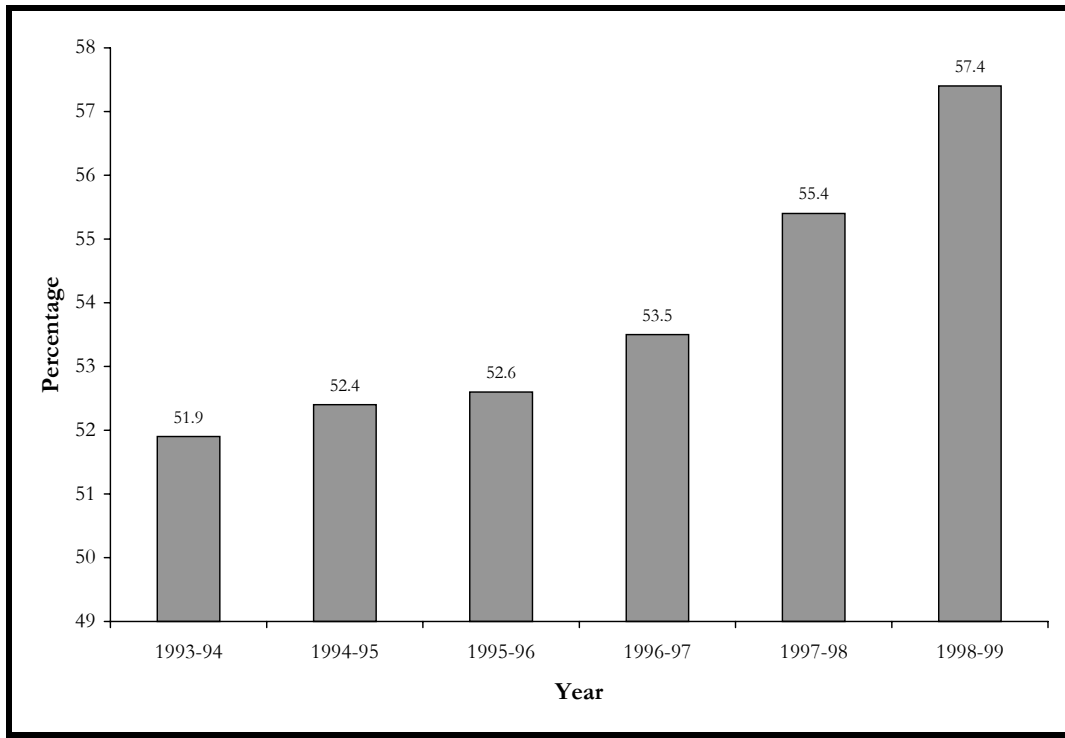
Note: Graduation rates were calculated by dividing the number of students 14 and older who graduated with a diploma by the number of students 14 and older who graduated with a diploma, received a certificate, reached the maximum age for services, died, and dropped out.
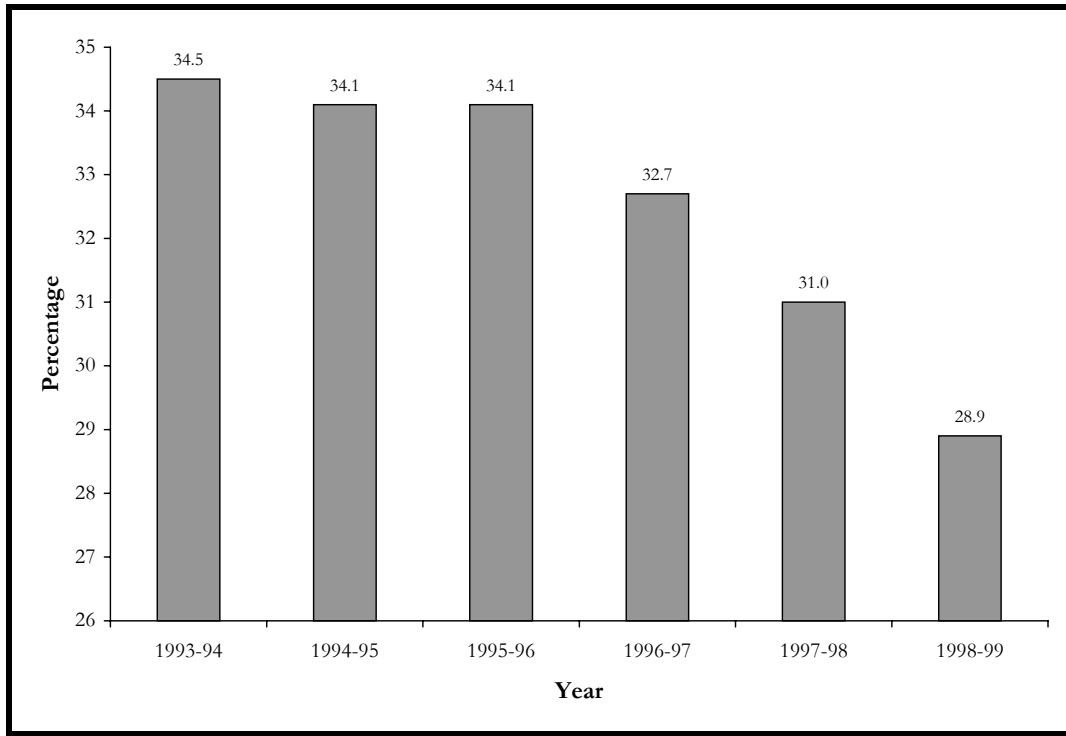
Source: U.S. Department of Education, Office of Special Education Programs, Data Analysis System (DANS).

Graduation and Dropout Rates by Disability

Graduation rates for students age 14 and older with disabilities varied by disability category. Students with visual impairments graduated at the highest rate (75.1 percent), followed by students with traumatic brain injury (70.3 percent) and students with hearing impairments (69.4 percent).

Students in five disability categories graduated at rates lower than the 57.4 percent observed for all students with disabilities. Graduation was least likely among students 14 and older who had mental retardation (41.7 percent) and emotional disturbance (41.9 percent). Table I-1 presents graduation rates for students age 14 and older in all 12 disability categories.

Figure I-2
Special Education Dropout Rates, 1993-94 to 1998-99

Note: Dropout rates were calculated by dividing the number of students 14 and older who
         dropped out by the number of students 14 and older who graduated with a diploma,
         received a certificate, reached the maximum age for services, and dropped out.

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

Dropout rates for students age 14 and older also varied by disability category. Dropout rates were lowest for students with autism (9.5 percent), deaf-blindness (11.5 percent), and visual impairments (11.8 percent). The highest dropout rate occurred among students with emotional disturbance: half of the students in that disability category dropped out of school in 1998-99. Dropout rates for the different disability categories are presented in table I-1.

Graduation and Dropout Rates by Race/Ethnicity

The *Twenty-second Annual Report to Congress* included, for the first time, data on the racial/ethnic composition of the special education population. This section of the module looks at graduation rates by race/ethnicity. Because the race/ethnicity data collection is so new, the data reported here should be interpreted cautiously. Analysis in the next 2 to 3 years will present a clearer picture of this variable.

Table I-1
Number and Percentage of Students Age 14 and Older with Disabilities Graduating with a Standard Diploma or Dropping Out, 1998-99

Disability Category	Graduated with a Standard Diploma		Dropped Out	
	Number	Percentage	Number	Percentage
Specific learning disabilities	100,738	63.3	43,156	27.1
Speech/language impairments	4,260	64.8	1,644	25.0
Mental retardation	16,086	41.7	9,628	24.9
Emotional disturbance	13,735	41.9	16,583	50.6
Multiple disabilities	2,075	47.0	788	17.8
Hearing impairments	2,610	69.4	533	14.2
Orthopedic impairments	1,830	63.4	421	14.6
Other health impairments	5,706	66.8	1,940	22.7
Visual impairments	1,172	75.1	184	11.8
Autism	418	47.1	84	9.5
Deaf-blindness	52	54.2	11	11.5
Traumatic brain injury	790	70.3	169	15.0
All disabilities	149,472	57.4	75,141	28.9

Note: The percentages in this table were calculated by dividing the number of students age 14 and older who graduated with a standard diploma or dropped out by the number of students age 14 and older who are known to have left school (i.e., graduated with a standard diploma, received a certificate of completion, reached the maximum age for services, died, or dropped out.)

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

Graduation rates for students with disabilities ages 14 through 21 varied by racial/ethnic group, ranging from 63.4 percent among white students to 43.5 percent among black students. Graduation rates for each racial/ethnic group are reported in table I-2. Dropout rates also varied by racial/ethnic group. Asian/Pacific Islander students had the lowest dropout rate, with a figure of 18.8 percent. They were followed by white students, with a dropout rate of 26.9 percent, Hispanic students, with a dropout rate of 32.3 percent, and black students, with a dropout rate of 33.7 percent. The highest dropout rate occurred among American Indian/Alaska Native students, at 44.0 percent.

Table I-2
Number and Percentage of Students Age 14 and Older with Disabilities Graduating with a Standard Diploma by Race/Ethnicity, 1998-99

Race/Ethnicity	Graduated with a Standard Diploma		Dropped Out	
	Number	Percentage	Number	Percentage
American Indian/Alaska Native	1,544	47.9	1,420	44.0
Asian/Pacific Islander	2,033	56.6	675	18.8
Black	19,653	43.5	15,251	33.7
Hispanic	13,150	52.9	8,029	32.3
White	100,900	63.4	42,820	26.9

Notes: The percentages in this table were calculated by dividing the number of students ages 14 through 21 in each racial/ethnic group who graduated with a standard diploma or dropped out by the number of students ages 14 through 21 in that racial/ethnic group who are known to have left school (i.e., graduated with a standard diploma, received a certificate of completion, reached the maximum age for services, died, or dropped out).

New York, North Carolina, Washington, and the District of Columbia have not yet reported 1998-99 exiting data by race/ethnicity and are thus not included in this table.

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

Summary

Since 1993-94, the high school graduation rate for students with disabilities has steadily increased, while the percentage of students dropping out of school has declined. Graduation and dropout rates varied by disability category, with students with visual impairments, traumatic brain injury, and hearing impairments graduating at the highest rates. Graduation and dropout rates also varied by racial/ethnic group. White students graduated at the highest rate, and Asian/Pacific Islander students had the lowest dropout rate.

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Participation and Performance of Students with Disabilities in State Assessment Systems

Participation

In 1999, the National Center on Educational Outcomes (NCEO) asked State directors of special education to provide their most recent frequency data on the participation of students with disabilities in State assessments (Thompson & Thurlow, 1999). In the past, most States were able to provide only estimates of the participation of students with disabilities in State assessments. In 1997, prior to the reauthorization of the Individuals with Disabilities Education Act (IDEA), 15 States provided actual participation numbers (Erickson & Thurlow, 1997). In 1999, 23 States provided these data.

Although the Federal requirement is for States to report the number of students with disabilities participating in State and district assessments, participation rates (reported as percentages) are useful for policymakers evaluating the inclusiveness of assessment programs. Using State-provided numbers of students participating in assessments and child count data, NCEO calculated participation rates for specific administrations of State tests (Thompson & Thurlow, 1999). These estimated rates are contained in table I-3. Rates of participation varied from less than one-fourth of students with disabilities to all students with disabilities.

There are several factors that State directors of special education believe may work against the full participation of students with disabilities in large-scale assessment programs, especially in States where accountability systems have significant consequences for students or schools (Thompson & Thurlow, 1999). The top three factors are:

- High stakes (i.e., sanctions or rewards) attached to school or district performance;

- Lack of exposure to the curriculum or content included in tests; and

- The perception of teachers, parents, and others that large-scale testing is irrelevant to the educational success of students with disabilities.

Table I-3
Percentage of Students Receiving Special Education Services Who Participated in State Assessments

State	Elementary Grades (K-5)	Middle School Grades (6-8)	High School Grades (9-12)
1	44%	43%	27%
2	81	73	51
3	52	63	53
4	51	79	78
5	62	66	56
6	100	100	100
7	95	95	---*
8	96	93	91
9	84	89	---*
10	65	70	51
11	83	88	93
12	88	90	---*
13	62	59	46
14	80	78	61
15	48	56	32
16	94	91	91
17	58	74	67
18	74	72	70
19	39	42	41
20	90	85	50
21	92	94	---*
22	89	---*	---*
23	23	15	26

*   No test administered at this level.

Note: Because there were multiple tests in some States and multiple grades in others, total numbers are not available.

Source: Thompson & Thurlow, 1999.

An analysis of data from the National Assessment of Educational Progress (NAEP) suggested that the provision of accommodations also affects the participation rate of students with disabilities. NAEP participation rates were higher in grades 4 and 8 (but not grade 12) when accommodations were provided (U.S. Department of Education, 1999). Since accommodations are included in students' IEPs, fewer students will participate in assessments if the terms guiding the use of accommodations for specific assessments are in conflict with students' IEPs. For example, if a student's IEP specifies multiple breaks during testing but a particular assessment's guidelines say to break only at specific times, that student is less likely to participate in the assessment.

Performance

NCEO analyzes State education reports to determine what types of information are provided on students with disabilities. Previous analyses had shown that few States (11 in the first analysis and 13 States in the second analysis) reported test-based results for students with disabilities. For the most recent analysis, 170 reports were collected from State accountability offices and State special education offices between March 1999 and August 1999. This analysis found that only 14 States included participation data, and only 17 States included performance data for students with disabilities in State assessments (Thurlow, Nelson, Teelucksingh, & Ysseldyke, 2000).

According to public reports, participation rates in State assessments varied from 33 percent to 97 percent of students with disabilities. Performance levels also varied widely, with the differences between rates of students with disabilities who met State standards and all students ranging from 20 percent to 50 percent. Table I-4 summarizes the performance data obtained from State reports.

There were increases in the reporting of performance data for students with disabilities but not to the extent that might be expected given the timelines in the IDEA Amendments of 1997. Of the 41 States that provide information other than financial data on students with disabilities, 17 States disaggregated performance data for students with disabilities on statewide assessments. A handful of States included information in their State accountability documents on how students with disabilities perform over time and whether their performance improves from year to year (Thurlow et al., 2000).

For the 17 States that presented information on statewide assessments, the most frequently reported content areas were reading (17 States) and mathematics (17 States). Eleven States reported science data, 10 reported writing data, and 6 reported social studies data. Sixteen States reported on students with disabilities in three or more content areas.

Reading Achievement

In the 17 States with disaggregated performance data, between 5 percent and 87 percent of students with disabilities who were tested met performance standards in reading. The differences in passing rates for all students and students with disabilities ranged from 12 to 49 percentage points. In grade 8, the grade for which the most States reported data, the differences in passing rates for all students and students

Table I-4
Summary of Reports on Educational Results on Students with Disabilities

Educational Results

- Seventeen States disaggregated performance data as specified in IDEA for students with disabilities (CT, DE, MD, MA, MN, MS, NV, NH, NY, NC, RI, SC, SD, TX, VT, VA, WV)

- Of 74 reports that did not include data on students with disabilities, over 50 included performance data on regular education students

- The most frequently reported content areas for assessment are reading (17 States) and mathematics (17 States)

- Sixteen States tested and reported on students with disabilities in three or more content areas

- While 20 States reported graduation exam results for regular education, only 35 percent (7 States: MD, MN, MS, NY, SC, TX, VA) reported these results for students with disabilities

- It is important to keep in mind participation factors (e.g., percentage of students with disabilities actually being tested) when examining the performance results of students with disabilities. Higher proficiency rates may also be a result of increased exclusion of student scores or lower standards

- The differences in proficiency rates between all students and students with disabilities on 8th grade State assessments ranged from:

  o 23 to 47 percent in reading

  o 19 to 42 percent in math

  o 25 to 44 percent in writing

- New York, Rhode Island, and Texas presented unique data on students with disabilities in the domain of Academic and Functional Literacy:

  o NY: Test scores on Occupational Education Proficiency examinations

  o RI: Test scores on health content area in statewide assessment

  o TX: Test scores on college entrance exam (TASP)

- Kansas continued to report data in the domain of personal and social well-being (number of violent acts toward staff and students)

Source: Thurlow et al., 2000.

Figure I-3
Differences on Criterion-Referenced Mathematics Tests Between 8th Grade Students with and Without Disabilities in 10 States
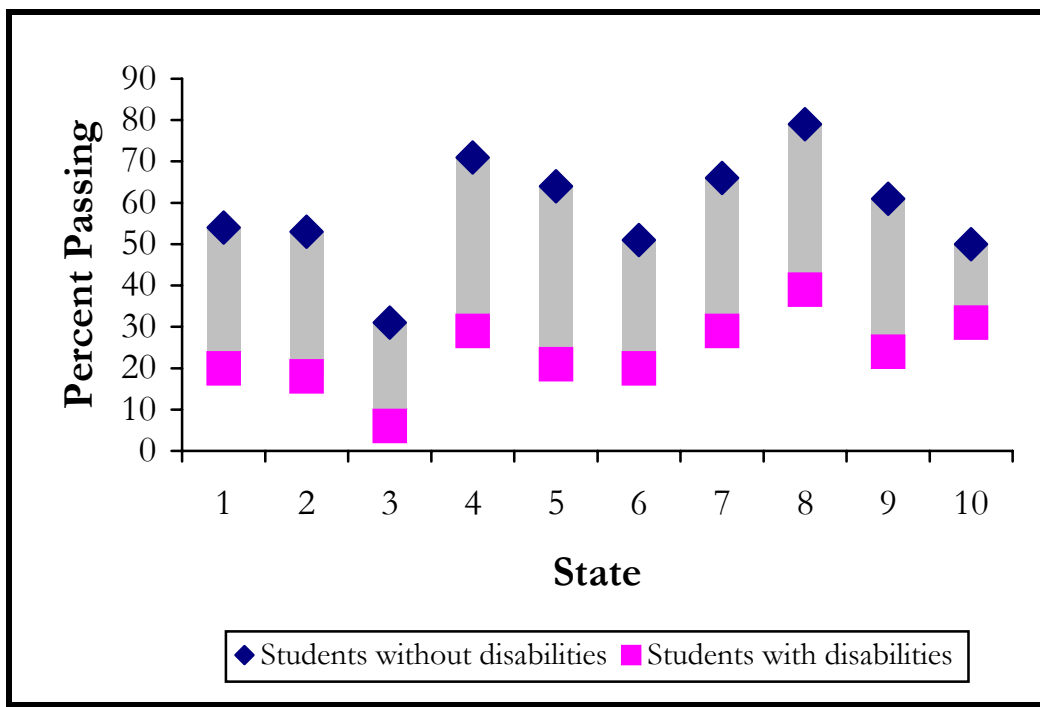
Source: Thurlow et al., 2000.

with disabilities in reading performance ranged from 23 to 47 percentage points, using criterion-referenced measures.

Mathematics Achievement

Mathematics performance was similarly variable. Overall, 3 percent to 74 percent of students with disabilities met mathematics performance standards in the 17 States with disaggregated performance data. The differences in passing rates of students with disabilities and all students ranged from 13 to 42 percentage points (see figure I-3). For 8th graders taking criterion-referenced mathematics exams, the differences in passing rates ranged from 19 to 42 percentage points.

These results are consistent in direction with results from the NAEP assessment of mathematics skills in 1996 (U.S. Department of Education, 1999). In the 1996 NAEP, students with disabilities scored between the 9th and 18th percentile, varying by grade and subsample. Across grades and subsamples, the NAEP mathematics

scores of white students with disabilities were higher than those of minority students with disabilities.

Using a large longitudinal database, NCEO examined the effect of transitions between regular education and special education across grades on performance trends for the special education population. The study also examined the effect of changes in assessment exemption rates across grades for students with disabilities. NCEO found that the highest achieving special education students left special education to return to regular education and that the lowest performing regular education students who had been referred to and found eligible for special education entered special education (Bielinski & Ysseldyke, 2000). The result of this movement between regular and special education was a substantial increase in the performance gap over time between regular education and special education students across grades. The study also revealed that the reduction in assessment exemption rates from testing that has occurred over time—and that is reflected in this study primarily in the higher grades—added to the size of the gap.

When the same special education students were tracked over time, however, the performance gap decreased slightly (Bielinski & Ysseldyke, 2000). These findings have significant implications for the States as they begin to publicly report disaggregated data on students with disabilities (such as those shown in figure I-3), particularly if attempts are made to track performance across time. Failure to document and account for changes in students' special education status and previous assessment exemption rates could result in misinterpretations about the effectiveness of special education services. Restricting the group of students for longitudinal analysis to those who received special education services during the first year of analysis and following their performance regardless of whether they continued to receive special education services will provide a more accurate indication of progress over time. Thus, States should consider ways to report on both the performance of all students with disabilities and the longitudinal performance of clearly defined targeted groups of students receiving special education services.

Change in Participation Rates and Performance Levels of Students with Disabilities

NCEO's 2001 Survey of State Directors of Special Education (Thompson, Thurlow, & Boys, 2001) asked directors whether the most recent test participation rates of students with disabilities on their State assessments had changed from previous years. Similarly, directors were asked whether the most recent test performance levels of students with disabilities on their State assessments had changed (see figures I-4 and I-5).

Figure I-4
Change in Test Participation Rates of Students with Disabilities Over Previous Testing Years
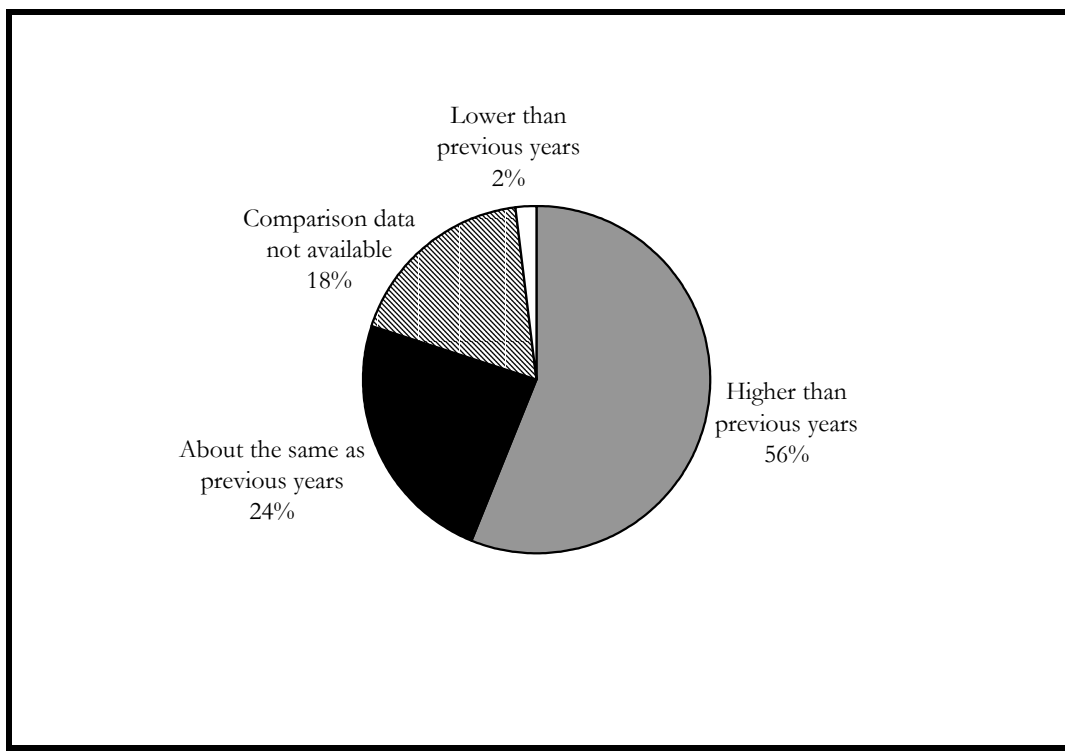
Source: Thompson et al., 2001.

The assessment participation rates of students with disabilities have increased in over half of the States and remained the same in another 25 percent of States. Only one State reported participation rates that are lower than in previous years. Nine States reported that they were in their first year of testing and did not have comparison data from previous years. State directors of special education attributed an *increase* in participation rates primary to these factors:

- IDEA regulations requiring participation in statewide assessments;

- Requirements of State accountability programs;

- Alternate assessment participants being exempt in previous years; and

- Increased flexibility in test accommodations.

Figure I-5
Changes in Test Performance Levels of Students with Disabilities Over
Previous Testing Years

Lower than
previous years
8%

Higher than
previous years
22%

Comparison data
not available
38%

About the same
as previous years
32%
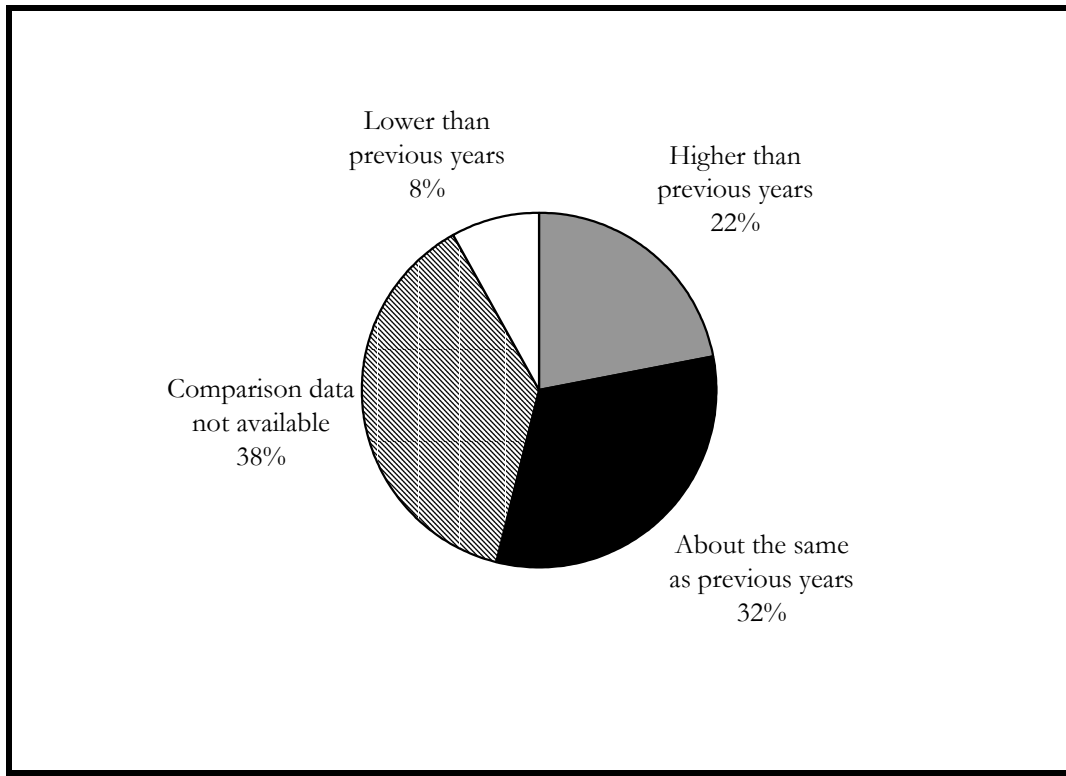
Source: Thompson et al., 2001.

State directors of special education reported that the assessment performance levels of students with disabilities have increased in about a quarter of the States and remained the same in another 32 percent of the States. Four States reported lower performance levels than in previous years. The director in one of these States commented, "The lower levels of performance may be the result of increased participation of students who previously received an alternative form of assessment as determined by their IEP teams." Over a third of the State directors reported that either their States have not yet disaggregated performance data for students with disabilities or that this is their first year of testing, and they do not have data from previous years to use for comparison purposes.

Table I-5
Status of Alternate Assessments Across States

	Number and Percent of States
Alternate assessment content	
State standards (may be expanded)	19 (38%)
Functional skills linked back to State standards	15 (30%)
State standards plus functional skills	8 (16%)
Functional skills only, no link to State standards	4 (8%)
Other	4 (8%)
Performance descriptors	
Same as general assessment (e.g., basic, proficient, advanced)	13 (34%)
Different from general assessment (e.g., independent, emergent)	17 (45%)
Our State has not made a decision about this yet	8 (21%)
Inclusion in State reports	
Student counted as assessment participant, and actual score is aggregated with scores of all other assessment participants	8 (16%)
Student counted as assessment participant, but actual score is reported separately	20 (40%)
Other	6 (12%)
Our State has not made a decision about this yet	16 (32%)

Source: Thompson et al., 2001.

Alternate Assessment

Alternate assessments are designed for students with disabilities who are unable to participate in general State or district assessments. As shown in table I-5, the NCEO Survey of State Directors of Special Education found that most States link alternate assessment content to State standards, but they do so in different ways (Thompson et al., 2001). Nineteen States (38 percent) started with State standards, expanding them to be inclusive of all students. Fifteen States (30 percent) began with functional skills that were then linked back to standards. Eight States (16 percent) supplemented their standards with functional skills that are not directly linked to standards, and four States (8 percent) based their alternate assessments on a set of functional skills, with no link to State standards.

Thirteen States (34 percent) reported that they use the same performance descriptors for their alternate assessment as for the general assessment, making aggregation possible. Seventeen other States (45 percent) said they select performance descriptors for their alternate assessments that differ from those used for the general assessments. At least eight States (21 percent) have not yet decided on performance descriptors.

About a third of the States (n=16) have not decided how alternate assessment performance will be included in their State reports. Of those that have, eight States (16 percent) have decided that the scores of alternate assessment participants will be aggregated with the scores of other assessment participants. In 20 States (40 percent), alternate assessment scores will be reported separately.

Difficulties in Reporting Data for Students with Disabilities

Differences in data collection and management systems may contribute to difficulties in reporting data for students with disabilities. Many States collect data at different points in time, through different offices, and for different purposes. In their study of performance and participation rates of students with disabilities in Oregon's State assessment, Almond, Tindal, & Stieber (1997) discovered that joining two extant databases was difficult because the two systems did not share a common student identifier. The researchers pointed to the historical and legal conditions under which these two databases were created and how those precedents may have interfered with the eventual merging of the two systems. The researchers also noted assessment difficulties for assessments conducted at particular grade levels. Such assessments generally rely on age-to-grade designations and thus may exclude students from nongraded programs, those who started school late, or those who repeat a grade. States may need to retool their data collection and management systems to ensure that all students with disabilities are included in performance reporting. Additional challenges in reporting these data include:

- Information systems that do not identify students with disabilities in State assessment procedures;

- Inaccuracy in marking answer documents by students, staff members, or proctors;

- State policies that exclude students with disabilities who receive any type of accommodation or those who use "nonstandard" accommodations;

- Lack of standardized procedures for calculating participation rates;

- Use of information on the number of students who were absent from the assessment;

- Data aggregation at the school or district level but not at the State level;

- State reports that do not explicitly describe the population sample or disaggregate the data of students with disabilities; and

- Policies that allow for the collection but no public reporting of data on students with disabilities.

Summary

The IDEA Amendments of 1997 required that students with disabilities be included in large-scale assessments and provided for the use of accommodations or alternate assessments where necessary. The amendments also stipulated that State educational agencies must report on the performance of students with disabilities with the same frequency and in the same detail as they report on the performance of nondisabled students. Recent research indicates that the participation of students with disabilities in state- and districtwide assessments still varies considerably across States. Similar variations are seen in States' reporting of assessment results for students with disabilities. Although barriers to increasing assessment participation, performance, and reporting still remain, NCEO studies have found that the States are making progress toward meeting the requirements set forth in the IDEA Amendments of 1997. Research has also suggested methodologies that will enhance States' abilities to accurately monitor performance trends over time.

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Challenges To Providing Secondary Education and Transition Services for Youth with Disabilities[1]

Beginning in the mid-1980s, the U.S. Department of Education's Office of Special Education and Rehabilitative Services (OSERS) has emphasized the importance of improving transition services nationally. The Federal Government has assumed a crucial role in stimulating State and local efforts to improve transition services through a variety of policy, research model demonstration, and technical assistance efforts. Specific language on transition was included in the Individuals with Disabilities Education Act (IDEA) Amendments of 1990 and again in the IDEA Amendments of 1997. From this Federal legislation, regulations were established requiring State and local educational agencies specifically to address the school and postschool transition service needs of students with disabilities. These needs would be met through interagency agreements and coordinated planning among special education staff, parents, students, regular education, and public service agencies.

With the reauthorization of IDEA in 1997, significant new requirements were put into place to ensure students greater access to the general curriculum and state- and districtwide assessment programs. The IDEA Amendments of 1997 also expanded previous transition requirements by requiring that the individualized education program (IEP) include, at age 14 or earlier, a statement of transition service needs that focus on the student's courses of study (such as participation in advanced-placement courses or vocational education programs). The IEP must also include, beginning at age 16 or younger, a statement of needed transition services and interagency responsibilities or any needed linkages.

The current challenge is to integrate and align these transition requirements with other IDEA requirements that give students with disabilities greater access to the general curriculum and state- and districtwide assessment programs. Several recent studies indicate that the implementation of transition service requirements has been too slow, with many States failing to achieve minimal levels of compliance (Hasazi, Furney, & DeStefano, 1999; Johnson & Sharpe, 2000; National Council on Disability, 2000). Areas of greatest noncompliance include having appropriate participants in IEP meetings, providing adequate notice of meetings, and providing a

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statement of needed services in students' IEPs. These problems have been complicated further by State and local standards-based assessment systems that either fail to include students with disabilities or provide inadequate accommodations that support their participation.

Students with disabilities also experience difficulties in meeting State and local graduation requirements, and concerns are mounting about the relationship between students' academic experiences and the development of postschool transition plans that address how students will access postsecondary education, employment, and community living opportunities (Guy, Shin, Lee, & Thurlow, 1999; Johnson, Sharpe, & Stodden, 2000; Policy Information Clearinghouse, 1997; Stodden & Dowrick, 2000a). Limited levels of service coordination and collaboration among schools and local service agencies create difficulties for students with disabilities and families in accessing postschool education or work results. Strategies are desperately needed to help State and local educational agencies and community service agencies address the transition service requirements as students access the general curriculum and meet State standards and graduation requirements. This module will discuss the challenges involved in providing services to this population and some strategies for meeting those challenges.

Challenges Affecting Secondary Education and Transition Services

Challenge 1: Ensure Students with Disabilities Access to the Full Range of Curricular Options and Learning Experiences

The IDEA Amendments of 1997 provide many students with disabilities new opportunities to participate in and benefit from a wide array of general courses and learning experiences. A major goal of accessing the general curriculum is to prepare students to earn a standard diploma and help prepare them for adult life (Policy Information Clearinghouse, 1997; U.S. Department of Education, 1999). Although the general curriculum contains both academic (e.g., math, science) and nonacademic (e.g., career education, arts, citizenship) domains, student performance is assessed primarily in academics. As a result, it is not uncommon for portions of the general curriculum as well as transition goals to receive limited or no attention (Hasazi et al., 1999; Warren, 1997). Efforts must be undertaken to ensure that students with disabilities remain on a full "curriculum" track with learning expectations that guide the instruction of regular education students. IEP teams must work to ensure that high expectations are maintained and students are afforded opportunities to develop skills through a wide range of curricular options, including vocational education, service learning, community work experience, and adult living skills (Hasazi et al., 1999; Johnson et al., 2000). Therefore, secondary education and transition models

are also needed that integrate academic, career, work-based, service learning, and other learning experiences.

Access to the general curriculum requires more than common standards, the integration of academic and applied learning, and universal design.[2] It also depends on other factors, such as the knowledge and skill levels of educators (Boudah, Schumaker, & Deshler, 1997; Carnine, 1995; Kameenui & Carnine, 1994; Tralli, Colombo, Deshler, & Schumaker, 1999), use of appropriate accommodations during instruction and testing (Elliott & Thurlow, 2000; Thurlow, Elliott, & Ysseldke, 1998; Thurlow, House, Boys, Scott, & Ysseldyke, 2000), collaboration between regular education and special education personnel in designing educational programs for students with disabilities (Knight, 1998; Lenz & Scanlon, 1998), and the support and vision of educational leadership.

There is also a critical need to develop assessment, curriculum, and instructional strategies that are relevant to all students (including those who have significant learning needs), allowing them to successfully achieve State and local standards, as well as to develop other essential adult life skills through vocational education, training in adult living skills, and community participation. Strategies such as universal design offer another approach to ensuring that students with disabilities access the full range of learning opportunities in the secondary education curriculum (Jorgensen, 1997; Orkis & McLane, 1998; Rose & Meyer, 1996).

To ensure that students with disabilities access the full range of general curricular options and learning experiences, there is a need to:

- **Promote high expectations for student achievement and learning.** High expectations must be maintained for students with disabilities across the full range of academic and nonacademic courses and programs available within middle schools and high schools nationally. This is consistent with the Bush Administration's blueprint for education reform, No Child Left Behind, that makes schools accountable for ensuring that all students meet high academic standards. In order to maintain high academic standards, instructional strategies that promote differential teaching, universal design, integrated academic and applied learning, and other practices will need to be broadly adopted.

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[2] In terms of learning, universal design means the design of instructional materials and activities that allows the learning goals to be attainable by individuals with wide differences in their abilities. This means, for example, that a curriculum should include instructional and assessment alternatives to make it accessible and appropriate for individuals with diverse learning styles and abilities (Access to the General Education Curriculum, www.cast.org/ncac).

- **Make systematic and appropriate use of assessment and instructional accommodations.** Regular education and special education teachers need information and skills on how to appropriately use accommodations in assessment and instructional situations. Improved teacher preparation at the preservice and continuing education levels, promotion of collaborative teaching models, and other strategies are needed to address this issue. State and local agencies are also grappling with inconsistent policies, procedures, and practices on the use of accommodations. Consequently, accommodations are many times viewed as unacceptable in meeting State or local district testing conditions, often over-used in the hope of "boosting" student performance, and commonly considered too expensive and difficult to implement. The latter factor often results in students' not receiving appropriate accommodations.

- **Ensure that students have access to the full range of secondary education curricula and programs.** Students' IEPs must focus on the broadest range of curriculum and programs that support students with disabilities in successfully meeting State academic and related standards as well as developing essential adult skills. In addition to the academic focus of the general curriculum, high school curricular options must also include community-based work experience, vocational education, dropout prevention and re-entry programs, independent living skills programs, Tech Prep programs, and service learning opportunities.

Challenge 2: Make High School Graduation Decisions Based on Meaningful Indicators of Students' Learning and Skills and Clarify the Implications of Different Diploma Options for Students with Disabilities

Requirements that States set for graduation can range from Carnegie unit requirements (a certain number of course credits earned in specific areas), successfully passing a competency test, high school exit exams, or a series of benchmark exams (Thurlow, Ysseldyke, & Anderson, 1995). States may also require a combination of these. Diversity in graduation requirements is complicated further by an increasingly diverse set of possible diploma options within individual States. In addition to the standard high school diploma, some States offer special education diplomas, certificates of completion, occupational diplomas, and others. Many States have implemented multiple strategies to improve the passing rates of students with disabilities on State exit exams and in meeting other requirements for graduation. Strategies have included grade-level retention; providing special instruction during the school day, after school, on weekends, and during the summer; and supporting teachers in using a variety of instructional strategies.

State and local educational agencies also need to examine the implications of developing and granting alternative diploma options for students with disabilities.

The question here is whether receiving less than a standard high school diploma may limit a student's access to future postsecondary education and employment opportunities. Currently, most States offer and grant alternative diplomas in addition to the standard high school diploma (Guy et al., 1999). State and local educational agencies need to thoroughly discuss the "meaning" and "rigor" of these alternative diplomas with, at a minimum, postsecondary education program representatives and employers. Consensus must be reached on their use for postsecondary education admissions and in making hiring decisions.

Challenge 3: Ensure Students Access to and Full Participation in Postsecondary Education, Employment, and Independent Living Opportunities

Young adults with disabilities still face significant difficulties in securing jobs, accessing postsecondary education, living independently, and fully participating in their communities. With the passage of recent Federal legislation (Americans with Disabilities Act, P.L. 101-336; and the IDEA Amendments of 1997; P.L. 105-17) has come an expanding social awareness of accessibility and disability issues surrounding youth with disabilities seeking access to postsecondary education, life-long learning, and employment (Benz, Doren, & Yovanoff, 1998; Horn & Berktold, 1999).

The National Center for the Study of Postsecondary Educational Supports (NCSPES), a Rehabilitation, Research and Training Center funded by the National Institute on Disability and Rehabilitation Research, U.S. Department of Education, at the University of Hawaii at Manoa, has conducted an extensive program of research focused upon the access, participation, and success of youth with disabilities in postsecondary education and subsequent employment. Based on this research, NCSPES has framed issues concerning students with disabilities and postsecondary education within the following four areas of intervention:

(1) Include opportunities for students to understand themselves and their disability in relation to needed services and supports, with a focus on advocating for those needs in different postschool educational and employment settings (NCSPES, 2000a);

(2) Develop effective models of assistance and support that are personally responsive, flexible, and individualized, as well as coordinated with instruction and integrated with the overall life support needs of the student (NCSPES, 2000b; Stodden & Dowrick, 2000a);

(3) Coordinate and manage postsecondary education supports and services with those provided by other community service agencies (health, mental health, human services, transportation, others) required by many students with

disabilities to successfully participate in and complete their postsecondary education programs (NCSPES, 2000a; Stodden & Dowrick, 2000b); and

(4) Ensure that the educational supports required by students during their postsecondary education program experiences transfer to eventual employment settings (NCSPES, 2000a; Thomas, 2000).

Another pressing societal challenge concerns the overall unemployment rate among adults with disabilities in the United States. Although employment has improved somewhat over the past 14-year period for people who say they are able to work, employment is still an area with the widest gulf between all people with disabilities and the rest of the population. Currently, only 32 percent of persons with disabilities, ages 18-64, work full- or part-time, compared to 81 percent of the nondisabled population—a 49 percent gap (National Organization on Disabilities, 2000). Further results from this study also note that employment prospects for 18- to 29-year-olds are the most promising. Among this cohort, 50 percent of those with disabilities who are able to work are working, compared to 72 percent of their nondisabled counterparts.

It is well understood that preparation for the transition from high school to postsecondary education, employment, and independent living must begin early, or at least by age 14. It is at this age that students' IEP teams must engage in discussions regarding the types of coursework students will need, to the extent appropriate for each individual student, to be able to enroll in postsecondary education programs; the types of learning options and experiences students will need to develop basic work skills for employment; and the skills students will need for independent living.

Specific types and levels of accommodations and supports a student will need to overcome barriers to participation in these postschool environments must also be identified. President Bush's *New Freedom Initiative* is intended to help Americans with disabilities by increasing their access to assistive and universally designed technologies that remove barriers to participation in postsecondary education, employment, and community life. Increased access to assistive technologies, funding for low-interest loan programs to purchase these technologies, and better coordination among agencies in prioritizing the immediate needs of young adults with disabilities for assistive technology needs in communities nationwide are part of this initiative.

Prior to the student's graduation from high school, it is the responsibility of the student's IEP team to identify and engage the responsible agencies, resources, and accommodations required for the student to successfully achieve positive adult life outcomes. State vocational rehabilitation programs have, for example, served as a

major resource in the preparation of some transition-age youth for employment. A recent longitudinal study of State vocational rehabilitation programs reported that transition-age youth currently represent 13.5 percent of all vocational rehabilitation clients, or approximately 135,391 persons nationally (Hayward & Schmidt-Davis, 2000). This study also reported that receipt of specific vocational rehabilitation services, including education or training services, physical or mental restoration services, and diagnostic or evaluation services, were strongly associated with achieving a positive employment outcome and to entering competitive employment. Overall, nearly two-thirds (63 percent) of transition-age youth who were vocational rehabilitation clients achieved an employment outcome as a result of the services they received (Hayward & Schmidt-Davis, 2000). Prior to a student's graduation from high school, all agencies responsible need to:

- **Ensure that community service agency participation systematically occurs in the development of postschool transition plans.** Strategies such as formalizing agency responsibilities through interagency agreements or memorandums of understanding and formalizing follow-up procedures and actions when agencies are unable to attend should be considered.

- **Engage in integrated service planning.** The IEP should be coordinated with the individualized service plans required under other Federal and State programs (including Title I of the Rehabilitation Act of 1973, Title XIX of the Social Security Act [Medicaid], Title XVI of the Social Security Act [Supplemental Security Income (SSI)], and other Federal programs).

- **Provide information to parents and students on essential health and income maintenance programs.** Information on the SSI program, including information on basic program eligibility, 18-year-old benefit redeterminations, appeals processes, and use of the SSI work incentives in promoting employment outcomes must be readily accessible to professionals, parents, and students with disabilities.

- **Promote collaborative employer engagement.** Increased secondary and postsecondary work-based learning opportunities, and ultimately jobs, are predicated on available and willing employers. Vehicles are needed that build on existing cooperative education programs in high schools, such as intermediary linking entities, that convene and connect schools, service agencies, and employers so as to maximize the important learning adjuncts that workplaces represent.

- **Establish partnerships with workforce development entities.** The participation of youth and young adults with disabilities, family members, and special education and rehabilitation professionals in State and local workforce development initiatives should be promoted. This is critically important to ensure that initiatives such as the Workforce Investment Act's youth

employment programs are fully accessible to individuals with disabilities as they pursue postsecondary education and employment opportunities.

Challenge 4: Support Student and Family Participation

The importance of student participation has been reinforced by emerging practices in public schools emphasizing the core values of self-determination, personal choice, and shared responsibility. OSEP has played a major role in advancing a wide range of self-determination strategies through sponsored research and demonstration projects. A recent national study that surveyed local special education directors and supervisors found that the majority (82 percent) of students over the age of 14 with disabilities frequently or almost always participate in their IEP meetings (Johnson & Sharpe, 2000). This study, however, did not address the question of how well prepared these young people are to participate in and ultimately lead discussions concerning their school and postschool goals.

Parent participation in IEP meetings has been required since the inception of IDEA in 1975. A large part of the discussion in the literature centers around the role of parents as participants in the development of their child's IEP. The IDEA Amendments of 1990 and the 1997 amendments have also required that State and local educational agencies notify parents and encourage their participation when the purpose of the meeting is the consideration of transition services. While existing policies have strongly encouraged parent participation, it is less clear how successful these strategies have been in creating meaningful and valued roles for parents. Because of the critical role that parents play in assisting their children in making the transition from school to adult life, additional attention must be given to establishing strategies and methods needed to actively engage them in discussions and decisions concerning school and postschool options. Special attention is being given to increased funding for effective training and outreach strategies for parents from diverse multicultural backgrounds and those living in poverty. To improve student and parent participation, there is a need to:

- **Support students in the development of decisionmaking, communication, and self-advocacy skills necessary to assume a leadership role in their transition/IEP meetings.** Strategies may include offering classes specifically designed to enhance decision making, efforts to promote self-determination and goal setting throughout the curriculum, and sending information home to assist parents in preparing their child for participation. Students' goals for self-determination must also be clearly stated within IEPs.

- **Ensure that parents and students have the information they need to participate in the IEP and transition planning process.** Parents also need information on the juvenile justice system, appropriate strategies and programs for serving youth with emotional and behavioral disabilities, information on community service programs and their availability, and many other issues.

Challenge 5: Improve Collaboration and System Linkages at All Levels

The effective use of interagency collaboration and cooperation to address transition needs of youths with disabilities has been difficult to achieve due to widely varying factors, including: (1) lack of shared information on students across agencies, making it virtually impossible to develop integrated service plans that support individuals in achieving school and postschool results (Johnson et al., 2000); (2) lack of follow-up data on program recipients that could be used to improve service effectiveness (Johnson, McGrew, Bloomberg, Bruininks, & Lin, 1997; Stodden & Boone, 1987); (3) lack of adequate attention in IEPs to health insurance, transportation, and other aspects of adult living; (4) lack of systematic transition planning with those agencies that would assume responsibility for postschool service needs (Hasazi et al., 1999; Johnson & Sharpe, 2000); (5) ineffectual interagency agreements (Guy & Schriner, 1997); (6) difficulties in anticipating needed postschool services; and (7) inefficient and ineffective management practices for establishing interagency teams (Johnson et al., 1987). Despite these problems, interagency collaboration and coordination of services must continue as a major strategy in addressing the needs of youths with disabilities.

A wide range of collaborative approaches and models has been part of the ongoing effort to improve transition services and postschool outcomes for youth with disabilities and families for more than two decades. OSEP's State and Local Implementation of IDEA (SLIIDEA) study (2001) identified strategies by States to improve the coordination of services. The study found, for example, that States have relied extensively on the development of interagency agreements to provide services that support students with disabilities as they transition from school to adult life. The study found that 89 percent of the States have written agreements with vocational rehabilitation, 56 percent with mental health agencies, and 51 percent with agencies responsible for employment and training (U.S. Department of Education, 2001). States have also funded transition coordinators whose primary responsibility is assisting districts to help students transition from school to postsecondary education, employment, and community living. Currently, 46 States report employing one or more transition coordinators (U.S. Department of Education, 2001). To improve collaboration at all levels, there is a need to:

- **Promote regular education and special education collaboration.** This would include collaborative models of instruction, student assessment, and IEP and transition planning between regular education and special education to promote positive school outcomes.

- **Promote collaborative staff development programs.** A variety of multidisciplinary and interdisciplinary approaches such as cross-training, train-the-trainer, team-building, and others involving collaborative relationships between State and local agencies, school-district personnel, institutions of higher education, parent centers, and consumer and advocacy organizations must be promoted.

- **Establish cross-agency evaluation and accountability systems.** This would include evaluations of school and postschool employment, independent living, and related outcomes of former special education students.

- **Develop innovative interagency financing strategies.** Fiscal disincentives should be removed and waiver options provided to promote cost-sharing and resource-pooling among agencies in making available needed transition services and supports for students with disabilities.

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Outcomes for Students with Problem Behaviors in School: Issues, Predictors, and Practices

The purpose of this module is to review issues, practices, progress, and challenges regarding problem behaviors. Although the module addresses behavior issues across all disability groups, as well as children without disabilities, the research foundation regarding behavior issues stems largely from the work with students with emotional and behavioral disorders. The module begins with a review of what we know about this population and the academic and life outcomes for students with some of the most challenging problem behaviors—those whose behavior interferes with their ability to learn or to maintain satisfactory relationships or is disruptive to the learning environment. These difficulties may be termed academic and social failure.

Students who exhibit behavior disorders in school continue to be one of the most problematic issues for both teachers and administrators (Furlong, Morrison, & Dear, 1994). As a consequence of their behaviors, these students spend less time engaged in instruction and often disrupt the learning environment for both themselves and their peers. The prognosis for success in school and in life for these students is frighteningly poor. This prognosis creates the need to develop effective and efficient prevention and intervention practices. Unfortunately, while inclusion is a goal for these students, research indicates that simply placing them in regular education environments with appropriate peer models is not sufficient to facilitate academic or behavioral success (Gable, McLaughlin, Sindelar, & Kilgore, 1993). For many of these students, placement in the regular education environment without appropriate supports may lead to more academic and social failure than does placement in more restrictive settings (Friedman, Cancelli, & Yoshida, 1988; Rich & Ross, 1989).

This module looks at trends and outcomes among students with problem behaviors, focusing on the school's role. A review of the research will lead to a discussion of the predictors of students who exhibit problem behaviors in school. Although these students often come to school predisposed to failure, a comprehensive analysis of these predictors is key to developing effective school-based prevention strategies. Finally, the module presents a brief summary of effective prevention practices.

Students with Problem Behavior: Outcomes

This section presents a review of student outcomes in regard to problem behaviors. Throughout the 1997 reauthorization of the Individuals with Disabilities Education

Act (IDEA), discussions on behavior and discipline were constant and somewhat contentious. Through these debates, it became obvious that there was a lack of the data that are needed to make informed decisions. Several data collection efforts are currently in place to provide information on behavioral issues, including national studies on the implementation of the behavior-related provisions of IDEA and State-reported data on suspensions and expulsions.

School Outcomes

In 1998-99, OSEP began collecting data from States on children with disabilities who were removed from their educational placement for disciplinary reasons. These data were required as part of a comprehensive effort to address discipline issues in the 1997 reauthorization of IDEA. States reported the number of children with disabilities who were (1) unilaterally removed to interim alternative education settings following drug or weapon offenses, (2) removed based on hearing officer determinations regarding likely injury to themselves or others, or (3) suspended/ expelled for more than 10 days in a school year. States also reported on the acts precipitating these removals. Data were reported by race/ethnicity and by disability category. In 1999-2000, OSEP funded a study of issues associated with the validity of the State-reported discipline data and found many threats to the validity of the data. As a result, OSEP has initiated revisions to the collection.

In order to provide a more complete understanding of the importance of addressing problem behaviors early and comprehensively, the following sections of the module review the literature to provide a synthesis of current views on typical outcomes for students with problem behaviors.[3]

Academic and Social Failure

While academic failures are directly related to curricular expectations, social failures involve a lack of success in meeting expectations for interacting in a school environment. Academic and social failures are reciprocally and inextricably related (Kauffman, 2001; Maguin & Loeber, 1996). The most obvious connection is seen in students with difficult behaviors who often suffer from associated academic deficits. However, the connection is equally sound in the opposite direction in that academic deficits are among the most powerful predictors of social failures and problem behaviors (Maguin & Loeber, 1996; Morrison & D'Incau 1997; Rylance, 1997; Wu, Pink, Crain, & Moles, 1982). In some sense, there appears to be evidence of characteristics of what might be termed "social learning disabilities" in many of these

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[3] The module does not include State-reported discipline data, which are available in Appendix A of this report.

students. These students tend to have few friends and significantly impaired abilities to relate to peers (Kauffman, 2001). Regardless of the reasons, Marcus (1996) reports that delinquent adolescents' friendships are characterized by greater conflict, poorer attachment quality, lesser ability to repair relationships, cognitive distortions, and poorer social-cognitive problem solving.

Life-Long Challenges

The longer academic or social failure persists for these students, the less likely it is that they will be successful in their educational experiences or in their lives following separation from school (Walker, Colvin, & Ramsey, 1995). About 50 percent of students identified under IDEA as having emotional and behavioral disorders drop out of school (Wagner, Newman, D'Amico, Jay, Butler-Nalin, & Marder, 1991). Once they leave school, these students lack the social skills necessary to be successfully employed; they consequently suffer from low employment levels (Bullis, Nishioka-Evans, Fredricks, & Davis, 1993; Carson, Sitlington, & Frank, 1995) and poor work histories (Bullis & Gaylord-Ross, 1991). Over the course of their lives, students with emotional and behavioral disorders typically hold multiple short-term jobs rather than long-term employment (Wagner, D'Amico, Marder, Newman, & Blackorby, 1992) and, consequently, earn less than students from any other disability category (Frank & Sitlington, 1997).

The poor prognosis for students with academic and social failures, regardless of whether they have been served under IDEA, extends beyond employment. Within 3 years of leaving school, 70 percent of these students will be arrested (Jay & Padilla, 1987), continuing a pattern of failure that becomes extremely difficult to correct. If there is one characteristic that separates juvenile offenders from any other child who exhibits problematic behavior, it is perhaps the extraordinarily poor prognosis of successful rehabilitation, particularly for those who have been incarcerated (Scott, Nelson, Liaupsin, Jolivette, Christle, & Riney, in press). Continuing life problems include involvement with social services and the corrections system (Duncan, Forness, & Hartsough, 1995) and drug abuse (Wagner, Blackorby, Cameto, & Newman, 1993). These outcomes represent only a partial list of identified negative outcomes that are associated with students whose behavior problems result in academic and social failure.

Students with Problem Behavior: Predictable Failure

When we can predict the academic and social failures of students with behavior problems, we then have much of the information necessary to prevent more serious academic and social problems from developing over time. However, unraveling the

complex array of home, community, and school factors associated with any student quickly becomes too unwieldy a task to undertake on a large scale. But research has identified significant predictors of which students with behavior problems will experience academic and social failure. The purpose of prediction is not to place or remove blame; it is helpful only if it assists in alleviating the problem. Prediction has two clear benefits. First, we must understand the reasons for failure if we are to effectively develop prevention and intervention strategies that are likely to provide these students with their best chances for success. Second, we must determine how to best use our existing resources and where additional resources will be needed to create successful programs. Regardless of the nature or source of identified predictors, this review maintains a focus on the school's role in creating and facilitating environments that predict success for students predisposed to or currently exhibiting academic and social failure.

Poverty and Predictable Early Academic Deficits

The single greatest predictor of academic and social failure in America's schools is poverty (Illinois State Board of Education, 2001; Rylance, 1997). Multiple regression analyses of statewide data in Illinois and Kentucky demonstrate that approximately 70 percent of the variance in standardized achievement scores can be accounted for by nothing more than income level (Illinois State Board of Education, 2001; Nelson, Scott, Liaupsin, Christle, & Riney, 2001). Further analysis in Illinois reveals that the cumulative effects of multiple other variables do not significantly add to the predictability of student success or failure (see table I-6).

There is strong evidence regarding the issues associated with poverty that tend to predict student failure. Students from a background of poverty typically come to school with significantly less exposure to print materials (Adams, 1988) and with less vocabulary and less practice at following complex sets of directions (Hart & Risley, 1995). These students then experience academic and social failures from the first day of school and at a higher rate than their peers (Coleman & Vaughn, 2000). These failures begin a pattern within which students experience more negative interaction and punishment while at the same time receiving less academic time with teachers. This becomes a vicious circle as students escalate problem behaviors in order to avoid aversive classroom experiences; the result is more punishment and eventual exclusion. This is an especially tragic pattern in light of the fact that there is ample evidence to suggest that increased academic engaged time and effective instructional practices can promote both academic and social success with these students (Nelson, Johnson, & Marchand-Martella, 1996; Scott, Nelson, & Liaupsin, in press; Tarver & Jung, 1995).

Table I-6
Percentage of Successful Predictions for ITBS Scores Below the Mean in
Illinois

Predictors	Successful Prediction
Poverty rate	71 percent
Poverty rate + mobility rate	73 percent
Poverty rate + mobility rate, attendance rate, race, teacher race, and highest teacher degree-masters	77 percent
Poverty rate + mobility rate, attendance rate, limited English proficiency rate, average teacher salary, average teacher experience, truancy rate, race, teacher race, funding per pupil, school enrollment, average class size, highest teacher degree-bachelors, and highest teacher degree-masters	78 percent

Source: Adapted from table presented on the Illinois State Board of Education web site.

Research indicates that there are no easy answers for low-income students with a history of early academic and social failure. Simply providing effective instruction in key deficit areas is a necessity, although it is apparently insufficient to facilitate continuing success (Hart & Risley, 1995). Students with problem behaviors require effective instruction, supportive/encouraging environments, and continuous feedback on an ongoing basis. That is, preventative support cannot be delivered via a "hit and run" model. Instead, support for students with these challenges must be incorporated into the system and follow students throughout their school career. The longer a student goes without support, at any level, the less likely it is that the student will experience success. Thus, research indicates that there is little room for error in promoting success with all children—but especially those who are at-risk for academic and social failure.

Practices Affecting Student Outcomes

The following practices have been successful in both preventing student failures and in providing effective supports for intervening with students who are already experiencing failure. These practices can be characterized in three stages: (1) primary prevention—creating school environments that minimize conditions that predict failure and provide effective instruction and prompting for success across all students; (2) secondary prevention—identifying students exhibiting initial failures despite primary prevention efforts and providing them with more individualized strategies to prevent failures from progressing; and (3) tertiary prevention—identifying students with the most chronic and pervasive academic and social failures and providing intensive and collaborative school/community-based strategies to

prevent these failures from resulting in school drop-out and the negative life outcomes typically associated with it (i.e., incarceration, social welfare involvement, drug abuse, etc.).

Positive Behavioral Support

Systems of positive behavioral support provide schools with a framework within which to predict student failures and to create strategies and expectations across all personnel in an effort to prevent failures. Such practices have been successful in decreasing a variety of student failures, thereby facilitating increased student success rates (Lewis & Sugai, 1999; Scott, 2001; Sugai, Sprague, Horner, & Walker, 2000). To be successful, positive behavioral supports must be implemented as a system wherein all personnel take equal responsibility for planning, implementation, and evaluation of student progress (Scott & Nelson, 1999a; Jolivette, Barton-Arwood, & Scott, 2000).

Positive behavioral support is a schoolwide approach to adopting and sustaining the use of effective practices to prevention designed to enhance the capacity of schools to educate all students, especially students with problem behaviors resulting in academic and social failure (Sugai et al., 2000). For students with problem behavior, positive behavioral supports help to prevent many of the predictable behavior problems that typically begin a pattern of escalating academic and social failures. This approach has been advocated in the *2000 Report of the Surgeon General's Conference on Children's Mental Health* as a cost-effective method of prevention. This report recommends that positive behavior support emphasize "primary prevention methods that recognize the unique differences of all children and youth, but should include selective individual student supports for those who have more intense and long-term needs" (p.7).

For students with problem behavior, positive behavioral supports help to prevent many of the predictable behavior problems that typically begin a pattern of escalating problems. However, regardless of the fidelity and implementation of schoolwide support systems, many students with problem behaviors will continue to exhibit behavior problems and experience academic and social failure. These students will require more intensive and individualized interventions (Sugai & Horner, 1999). Sugai and Horner (1999) suggest that, within a system of support, the level and intensity of support are dictated by the level and complexity of the behavior problem. Efficiency is then realized by preventing problems across all students so that more intensive needs may be identified earlier and more resources may be applied in developing individualized interventions.

Because students with problem behaviors often experience a high degree of academic and social failure in their lives, effective schools provide multiple opportunities for success and facilitate success by communicating high expectations, providing effective instruction, and developing environments that encourage, prompt, and acknowledge success. Students with a background of failure are easily discouraged and must be set up to succeed on a frequent and predictable basis (Scott et al., in press).

Effective Instruction and Collaborative Practices

Meta-analyses of over 800 studies have examined effective practice for students with problem behaviors (Gottfredson & Gottfredson, 1996; Lipsky, 1991). The largest effects were found for social skills instruction, behaviorally based interventions (i.e., encouragement and consistent responses to positive and negative behavior), and academic instruction. What these three practices have in common is that they are based on the delivery of effective instruction. For both academic and social problems, meta-analyses have identified practices in which instruction includes clear expectations and how to meet them, encouragement and facilitation of success, and consistent acknowledgment/feedback for both positive and negative behavior.

As previously discussed, students with problem behaviors require effective instruction that engages them in learning and facilitates frequent success. Evidence clearly indicates that academic success is associated with a decrease in problem behavior and involvement with the judicial system (Gottfredson & Gottfredson, 1996; Lipsky, 1991; Maguin & Loeber, 1996). However, while effective instruction has historically been conceived of as mainly an academic issue, students with problem behaviors require effective instruction across the curriculum and into students' extracurricular lives. In the social realm, research indicates a need for programs that include social skills, peer mediation and conflict resolution, and transition planning (Jolivette, Stichter, Nelson, Scott, & Liaupsin, 2000; Peck, Sasso, & Jolivette, 1997).

Effective interventions will likely require schools to look beyond their traditional role with these students. For example, Neel, Meadows, Levine, and Edgar (1988) described vocational training as the means for identifying, teaching, and reinforcing appropriate and specific job skills within a variety of work environments. This definition implies collaboration between the school and community in developing coordinated experiences and expectations. The array of problems faced by many students requires interventions that are beyond the scope of the school. Although intervention plans may be initiated by the school, the plans themselves and effective implementation of them will require a collaborative effort between the school, family, and community.

Wraparound Planning

One positive trend for students with behavior problems has been the move toward integrated and collaborative assessment and intervention. Wraparound planning typically has been conceptualized as a family- and student-centered, multidisciplinary planning process specifically designed for students whose history of problem behaviors warrants the most intensive interventions. However, wraparound planning has also been applied for students with more mild behavioral problems and as early intervention for students identified as at-risk for emotional and behavioral disabilities (Eber, Smith, Sugai, & Scott, 2001; Eber, 1999). Wraparound planning involves all stakeholders, including parents, school personnel, the student, and a variety of associated professionals from the community (e.g., vocational counselors, physical therapists, mental health, and medical professionals). Services commonly used by individuals with emotional and behavioral disabilities include counseling; financial counseling; job training, mentoring, and coaching; and health services (Karp, 1996).

School Responses

A survey conducted during the 1996-97 school year found that more than 75 percent of all schools reported having zero tolerance policies for various student offenses (U.S. Departments of Education and Justice, 1999). In addition, there has been an increase in the presence of law enforcement officers and metal detectors in public schools (U.S. Departments of Education and Justice, 1999). However, evidence suggests that such measures have been ineffective, or even counterproductive, in preventing school violence (Hyman & Perone, 1998; Mayer & Leone, 1999). Schools continue to exclude students with problem behaviors as a first-level response, often without implementing active instructional strategies for future problem prevention.

Functional Behavioral Assessment

The 1997 amendments to the Individuals with Disabilities Education Act (IDEA) mandate the development of behavior intervention plans based on functional behavioral assessment for those students with disabilities who exhibit behaviors that constitute a pattern of misbehavior or require a change in placement (P.L. No. 105-17, §615(k)(1)(B)(i)). Functional behavior assessment has been defined as "a process for gathering information that can be used to maximize the effectiveness and efficiency of behavioral support" (O'Neill et al., 1997, p. 3). Simply, functional behavior assessment is a systematic method of assessing the purpose or "function" of a student's behavior in relation to its context (i.e., surrounding environment) so that appropriate interventions can be designed to meet the unique needs of

Table I-7

Steps for Conducting a Functional Behavioral Assessment and
Implementing a Behavioral Intervention Plan

Steps	Procedures
Step 1: Define the Problem Behavior	Create a concrete definition of the problem behavior and the conditions under which it typically occurs.
Step 2: Gather Information Regarding Environment and Behavior	Use interviews, questionnaires, record reviews, and direct observations to determine what environmental events tend to precede and follow behavior.
Step 3: Hypothesize Function of Behavior	Use collected information to hypothesize the function or purpose the behavior serves for the student.
Step 4: Develop a Behavioral Intervention Plan	Determine and teach an appropriate behavior that serves the same function for the student. Arrange the environment to prompt desired behavior and develop plans for providing consequences for both desired and undesired behavior.
Step 5: Monitor Behavior To Verify Hypothesis and Validate Intervention	When monitoring indicates that the intervention is successful, the functional behavioral assessment is completed. When intervention is unsuccessful, return to Step 2 and continue gathering data toward a more valid hypothesis.

individual students. The great benefit of functional assessment is the ability to assist in developing proactive (i.e., preventative), positive, and individualized behavior intervention plans for students with challenging behaviors. The basic steps for conducting a functional behavior assessment and implementing a behavioral intervention plan are presented in table I-7. The mandating of functional behavior assessment has resulted in the need to train large numbers of personnel in the process of creating behavior intervention plans based on the function of student problem behavior. However, the structure and cost of traditional professional development models make such large-scale training efforts difficult (Scott & Nelson, 1999b; Sailor et al., 2000).

Traditionally, students with problem behaviors have been placed in exclusionary environments (i.e., resource room, self-contained room, non-school placement). As more students identified with behavioral disabilities are being included in the general environment, questions have arisen regarding the appropriateness of traditional methods of functional behavioral assessment. Recent literature, however, provides support for the efficacy of functional behavioral assessment for most problem students in public school classrooms (Ellingson, Miltenberger, Stricker, Galensky, & Garlinghouse, 2000; Heckaman, Conroy, Fox, & Chait, 2000).

Examples of systems and procedures for conducting functional behavioral assessment and implementing behavioral intervention plans in public schools have increasingly demonstrated positive outcomes for students with problem behavior (e.g., Scott, DeSimone, Fowler, & Webb, 2000; Sugai, Lewis-Palmer, & Hagan, 1998). These student successes have been facilitated by functional behavioral assessment processes that involve collaborative decisionmaking and planning across a range of professionals and stakeholders (Eber, Smith, Sugai, & Scott, 2001; Jolivette, Barton-Arwood, & Scott, 2000). To bring systems together in creating effective and efficient plans, the functional behavioral assessment must be a part of typical systemic procedures for assessing problem behaviors at any level (Sugai, Horner, & Sprague, 1999). In a 1998 research synthesis funded by OSEP, behavioral intervention plans that were based on a prior functional behavioral assessment were more likely to result in positive behavior change.

This level of cooperation among a diverse group of professionals represents a fundamental change in the ownership of problem students—a shift from the expert model to the collaborative model. Such systemic changes are difficult for schools to undertake, regardless of the topic or students involved. When focusing on such a group of students whose behaviors are seen as among the most problematic issues facing school personnel, the challenge of changing systems becomes ever larger (Scott, Nelson, & Zabala, in press). Still, current evidence suggests that such processes and collaborative systems are related to positive student outcomes.

Summary

Students with problem behaviors present challenges to schools; in turn, schools tend to react in ways that often set the context for further problem behaviors and eventual school exclusion. Such students typically experience poor social and academic outcomes in school, leading to poor employment outcomes, involvement with the social services system, and incarceration. Research on school achievement points to poverty as the leading predictor of both academic and social failure. Students from a background of poverty are less prepared to enter school on both academic and social grounds and typically experience failure very early in life.

Practices that increase positive outcomes for students with problem behaviors are those such as social skills instruction, behaviorally based interventions, and academic instruction that provide systems-level support calculated to prevent predictable failures. Individualized interventions based on functional behavioral assessment and involving a range of stakeholders from both the school and community have been found to increase positive outcomes for these students. Although not implemented on a large scale, interventions and collaborative ownership of problem behaviors that are evidenced in the positive behavioral support model and the functional behavioral

assessment and wraparound procedures that have been implemented systematically give reason for optimism. In general, this trend would seem to be a turning point in the effort to prevent student failure. The components of a successful model are known and well-validated. The question of success will revolve around the ability of systems to adopt and share the responsibilities for change.

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Results Experienced by Children and Families Entering Early Intervention

The emphasis in education and other social programs has recently shifted from a focus on documenting what was provided to describing what was achieved. For infants and toddlers with special needs, the desired results of intervention services are challenging to conceptualize. Acquisition of school-age skills such as reading and mathematics skills are clearly not appropriate outcomes for this age group. Similarly, broad goals of community participation or membership in groups have limited applicability to children under 3 years of age. What then are the desired results of early intervention services?

A priority addressed by the National Early Intervention Longitudinal Study (NEILS) is to examine the outcomes experienced by children and families in early intervention. Some of the purposes of Part C deal specifically with child and family outcomes and provide guidance as to the results expected from early intervention. Part C was enacted in part because of the "urgent and substantial need:

(1) to enhance the development of infants and toddlers with disabilities and to minimize their potential for developmental delay;

(2) to reduce the educational costs to our society, including our Nation's schools, by minimizing the need for special education and related services when infants and toddlers with disabilities reach school age;

(3) to minimize the likelihood of institutionalization of individuals with disabilities and maximize the potential for their independently living in society;

(4) to enhance the capacity of families to meet the special needs of their infants and toddlers with disabilities" (§631(a)).

Drawing upon the stated purpose of the legislation, the conceptual framework for NEILS identified three distinct outcome areas that the study would assess: (1) short-term outcomes for children (enhancing development), (2) long-term outcomes for children (minimizing the need for future services, minimizing the likelihood of institutionalization), and (3) outcomes for families (enhancing the capacity of families). These three outcome areas are discussed in greater depth in the pages that follow.

NEILS is a longitudinal study following children from four birth years. These children received their first early intervention service between September 1997 and November 1998. The oldest children in the sample started kindergarten in 2000-01 and thus exited early intervention in 1998. The youngest will exit the early intervention service system in mid-2001 and will probably begin kindergarten in 2003-04. Because of the age distribution in the sample, it will be another year before short-term child outcomes are completely analyzed and a little longer before the first set of long-term child outcomes is ready for dissemination. The framework for looking at child outcomes is presented along with some preliminary data on the children's status at program entry.

Short-Term Outcomes for Children

Short-term outcomes refer to those that occur after a limited period of time in early intervention. NEILS is interviewing families annually until the child's third birthday. The short-term outcome areas being tracked are physical health; developmental milestone attainments in motor, communication, cognition, and independence; social skills and relationships with peers and adults; behavior and engagement; participation or interaction with typically developing peers; and the need for ongoing services.

The data presented in this report are baseline data against which short-term outcome data will be compared at subsequent time points. Many of the findings on status at entry to early intervention were already presented elsewhere in this report in the section on characteristics of children and families in early intervention. The data on physical health indicated that although many parents of children entering early intervention reported their child's health to be very good or excellent, these proportions were substantially smaller than those reported for the general child population under 5 (61 percent vs. 82 percent). Behavioral data suggested that more than half (56 percent) of the children entering early intervention had no trouble playing with other children, and 39 percent were not at all aggressive with other children. In this section, we will focus on the attainment of developmental milestones by describing the developmental status of children when they begin services.

Attaining age-appropriate developmental competencies is an important outcome for all infants and toddlers. It is significant for children under 3 because it facilitates interaction with the environment, which forms the foundation of individual child development. The developmental accomplishments of infancy and toddlerhood are also important because they lay the groundwork for the next level of developmental skills children must master as they move through the preschool years and then enter elementary school. For example, communication and mobility are important developmental tasks for young children. Acquiring beginning communication skills

allows the child to more effectively communicate his or her needs. Similarly, becoming mobile provides access to a much broader range of environments and objects to explore and enjoy. On the other hand, the child without adequate communication skills is limited in his or her ability to interact with caregivers and others in his or her social world and is possibly frustrated by this limitation. A child who is not mobile is restricted to where he or she is placed and reliant on what others bring for the child to explore.

NEILS examined developmental attainments by asking parents to report on a set of child behavior and skills in several domains. For each item, the parent was to report whether the child "does it well," "does it but not well," or "doesn't do it at all." The specific milestones were selected because they were assumed to have face validity as markers of developmental attainment, to be universal in expression with minimal cultural/socioeconomic bias, and to be observable in everyday activities.

The status of children upon entry into early intervention on a select set of the milestones is shown in table I-8. The nationally representative data are grouped by domain and reported separately for children who were less than 12 months of age at the time of the first interview, between 12 and 24 months of age, and older than 24 months of age. In interpreting these data, it is important to remember that the three age groups of entry into early intervention reflect three fundamentally different groups of children with regard to the nature of their disability or delay. (See discussion of characteristics of children entering early intervention in Chapter II.) Children who began early intervention and whose families were interviewed when the child was less than 12 months of age are not just younger than the other two age groups. Children who begin early intervention at less than 12 months of age are much more likely to have a diagnosed condition or a risk condition such as low birth weight. Children older than 12 months, especially those older than 24 months, are much more likely to have a communication-related disability or delay.

The findings for children who were less than 12 months old at the time of the interview show that very few of the children in this group have mastered sitting, crawling, or walking. To some extent, this might be expected because the age range includes children as young as several weeks old.

Within the group of children whose families were interviewed when they were between 12 and 24 months, some have mastered the motor milestones. For example, 41 percent were reported as able to walk well. Nearly all children in the general population can walk by 17 months of age. Many of the youngest children in this middle age group entering early intervention would not therefore be expected to walk yet. Overall, the data on the motor milestones are consistent with other NEILS

Table I-8

Milestone Attainment in Different Domains by Age Group at Entry to Early Intervention Services

	Percentage of Children Reported Able To Do Milestone Well		
	Age at First Interview		
	<12 Months	12 to 24 Months	24 to 32 Months
Motor			
Grasp objects and let go of them (10)	52	NA	NA
Crawl, scoot, or creep (11)	17	NA	NA
Sit up (11)	15	NA	NA
Pick up small objects with finger and thumb (12)	18	75	87
Hold a crayon or pencil (16)	2	41	72
Walk without holding on (17)	0	54	90
Walk quickly or run (25)	NA	42	81
Take paper off candy to unwrap (25)	NA	17	50
Communication			
Babbles (3)	64	NA	NA
Says "mama" or "dada" (12)	13	58	77
Responds to simple gestures like someone waving "bye-bye" (17)	19	70	88
Repeats or imitates a word (18)	4	22	30
Follows a 2-step verbal direction (24)	NA	37	65
Says 2 or 3 words in a sentence (25)	NA	5	17
Self-Help			
Eats bite size pieces with fingers (11)	11	NA	NA
Lifts a cup and drinks from it (18)	5	65	88
Takes off socks without help (23)	NA	65	78
Washes and dries hands thoroughly (28)	NA	NA	36
Cognition			
Looks for object out of sight (7)	26	NA	NA
Laughs in response to peek-a-boo (8)	49	NA	NA
Explores objects by shaking and banging (11)	39	NA	NA
Puts things into and takes them out of things (12)	5	NA	NA
Does simple pretending in play like feeding a doll (18)	1	29	64
Shows that knows two body parts (28)	NA	40	77
Refers to things as "mine" (30)	NA	21	51
Gives his or her first name (35)	NA	6	14

Note: The number in parenthesis after the milestone is the age in months by which almost all children in the general population (approximately 90 percent) have attained this milestone. Some milestones are too advanced or too young for some age groups and were "not asked" (NA) for these children.

Source: National Early Intervention Longitudinal Study.

data showing motor difficulties are less often a reason for early intervention services among this middle age group compared to the younger population.

The predominance of communication difficulties among children who begin receiving early intervention after 24 months of age is strongly reflected in the milestone data. Saying "mama" is a milestone mastered by the general population of children by 12 months of age. Within the group of children who began early intervention between 12 and 24 months of age, only 58 percent could say "mama." Similarly, almost all children in the general population can follow a two-step direction by 24 months. Only 37 percent of children who were between 12 and 24 months when the interview was conducted could do this well. These children were relatively more proficient in the area of self-help, but still only 65 percent could use a cup to drink or take off their socks. Both of these are usually mastered by 24 months.

The children who were the oldest when they began to receive early intervention services, those who were between 24 and 32 months at the time of the interview, were somewhat skilled in the motor and self-help areas. Even in these areas, some children were having difficulties in areas typically mastered by much younger children. Only 90 percent were reported as able to walk well, and only 81 percent could run quickly. Only half could take the wrapper off a piece of candy, something that nearly all children can do by 25 months. Most could use a cup and take off their socks.

The oldest children, those who began early intervention services after 24 months, have mastered milestones in the motor, self-help, and cognitive areas with one exception. Almost all children can pick up small things by 12 months of age, so even though only 13 percent of the oldest group of children beginning early intervention were not able to do this task well, these children are a year or more behind in acquiring this skill.

A different picture is presented by the communication milestones. Among this oldest group of early intervention entrants, the percentage who could say "mama," a 12-month milestone, was only 77 percent. A task that almost all children can do by 18 months is repeating a word. Among children who began early intervention between 24 and 32 months of age, however, only 30 percent were reported by their caregivers as able to do this. All of the communication milestones show this oldest group as having difficulty in this area at the time they began to receive early intervention services.

These data describe the children at entry to early intervention. The more interesting question is how children will change over time with regard to short-term developmental outcomes. Future analyses from NEILS will examine the attainment of developmental milestones as children receive services over time and as they get older.

Long-Term Outcomes for Children

Long-term outcomes from early intervention are those that occur after the child has left early intervention services. An important long-term outcome is prevention of future delays and disabilities. The meaning of "prevention" varies for different kinds of children. It is important to understand that the population of children being served in early intervention programs is extremely heterogeneous with regard to the nature of their delay, disability, or risk condition. A baby born at 975 grams with multiple physical problems presents a very different set of needs from a healthy 26-month-old with a delay in communication skills. Both of these children, as well as children with many other different conditions and needs, can be eligible for early intervention services. These variations among children have direct implications for what early intervention is trying or can reasonably be expected to enhance or prevent.

In NEILS, several different long-term outcomes for former recipients of early intervention are being examined, including the need for future services, physical health, developmental attainments, academic skills, memberships in groups such as being a member of a sports team, and interpersonal relationships such as friendships. The need for future services is being examined at 36 months (what proportion of children are referred for special education upon exiting early intervention?) and at kindergarten (what proportion are receiving special education in kindergarten?). Changes in physical health and developmental attainments are also being assessed at 36 months and at kindergarten. The academic skills of reading and mathematics are assessed only at kindergarten, as is membership in groups. Relationships or friendships are assessed at 36 months and at kindergarten.

Family Outcomes

Early intervention is a program designed for both children and families. Family-centered practices are mandated as an integral part of early intervention services and are expected to permeate all aspects of service delivery (Bailey, Buysse, Edmondson, & Smith, 1992). To address the need for an approach that could be applied in evaluating family outcomes across many families and programs, Bailey et al. (1998) proposed a general framework for assessing family outcomes. The framework identifies two general types of family outcomes and corresponding questions that

reflect current values and the outcomes early intervention could be expected to affect. The two general categories of outcomes are the family's perception of their early intervention experience and the impact of services on the family. This framework was used to develop the family outcome measures in NEILS. The NEILS data presented here refer only to the family's initial perception of the early intervention experience. All families were interviewed within 4 months of beginning early intervention; the majority were interviewed within 2 months. Additional data on the impact on the family will be forthcoming as information at later time points becomes available.

NEILS examined a number of issues related to the families' perceptions about their entry into early intervention, as well as satisfaction with initial services. These data are shown in table I-9. The great majority of families had little difficulty finding out about early intervention services or getting the services started. The findings with regard to the individualized family service plan (IFSP) are somewhat surprising in that one in five families was not aware of the existence of a written plan. Presumably they had participated in such a process 1 to 2 months prior to being interviewed. The diagnosis of a disability and the subsequent entry into a new service system can be an overwhelming process for families, and it appears that the development of the IFSP may have not been well explained, was forgotten, or both, for some families. It is also possible that the development of the plan was not the family-professional partnership it is envisioned to be, so there was little for families to remember. This may be related to the substantial number of premature infants entering the system shortly after birth.

Other aspects of the IFSP process were generally perceived as positive. Perceptions about who was seen as making decisions varied depending on the decision. Goals and outcomes were overwhelmingly seen as joint decisions between families and professionals. The kinds of services to be provided were seen as joint decisions by two-thirds of the families. On the other hand, about half the families felt professionals mostly made the decisions on the amount of services. Most families were satisfied with their level of involvement in the decisionmaking.

Families were generally pleased with the quality and quantity of the early intervention services they were receiving. Families were asked to rate their therapy services as well as their other early intervention services with regard to both of these dimensions. They were also pleased with the number of professionals working with the child. Over 90 percent felt the help and information that had been provided to the family was excellent or good. These ratings were offered within the first 4 months of the family's experience with early intervention, but the data clearly indicate that, for most families, their initial experiences with early intervention are positive.

Table I-9
Families' Perceptions of Entering Early Intervention, the IFSP Process, and the Initial Services Provided

	Percentage of Families
Entering Early Intervention	
Amount of effort required to find out where to go to try to get early intervention services	
A lot of effort	11
Some effort	14
Little	25
No effort	50
Amount of effort to get services started	
A lot of effort	9
Some effort	14
Little	34
No effort	43
IFSP Process	
Aware of a written plan that describes goals and services	
Yes	82
No	18
Who came up with the goals or outcomes	
Mostly the family	7
Mostly the professionals	12
Family and professional together	81
Who decided on the kinds of services	
Mostly the family	9
Mostly the professionals	27
Family and professional together	64
Who decided on the amount of services	
Mostly the family	8
Mostly the professionals	49
Family and professional together	41
How family feels about involvement in decisionmaking	
Wanted to be more involved	22
Involved about the right amount	77
Wanted to be less involved	1
Satisfaction with Initial Services	
Rating of amount of therapy	
More than needed	4
About the right amount	76
Less than needed	20
Quality of therapy services	
Excellent	60
Good	32
Fair	6
Poor	<1

Table I-9 (cont'd)

	Percentage of Families
Rating of amount of other early intervention services	
More than needed	5
About the right amount	82
Less than needed	13
Quality of other early intervention services	
Excellent	52
Good	45
Fair	6
Poor	1
Rating of number of professionals working with child	
Too many	2
About the right number	91
Not enough	7
Rating of help and information family had received	
Excellent	56
Good	36
Fair	7
Poor	1

Note: Numbers may not sum to 100 due to rounding.

Source: National Early Intervention Longitudinal Study.

Conclusion

The information collected thus far in NEILS documents a relationship between developmental characteristics, reasons why children are eligible for services, and the age at which they enter the early intervention service system. It remains to be seen how long-term child outcomes will relate to these findings and other child, family, and service provision characteristics.

Overall, families are satisfied with the services they are provided or offered at the time their child enters early intervention. Continued contact with parents will determine if the early intervention service system is able to maintain this standard of meeting the needs of the families of young children with disabilities.

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