

## 7. VOCATIONAL EDUCATION COURSES AND SERVICES

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Employment is an expectation for adults in American society. Indeed, youth begin to enter the workforce in early adolescence, and the majority of youth are employed during their high school years (National Research Council, 1998; Rothstein & Herz, 2000). This is the norm for youth with disabilities as well as youth in the general population. NLTS2 data show that about 60% of youth with disabilities hold jobs at some time in a 1-year period during high school (Marder, Cardoso, & Wagner, 2003) and gain valuable experience in the world of work. Further, 53% of students with disabilities have competitive employment as a goal for the period immediately following high school, and 40% have a goal of postsecondary vocational training.

For youth with disabilities to be fully enfranchised within today's adult workforce, schools must help them develop the knowledge and skills they need to meet these goals. There is widespread recognition that schools have a critical responsibility in providing education and training for workforce preparation. Legislation, including the Individuals with Disabilities Education Act (1990) and subsequent amendments (1997), the Carl D. Perkins Vocational and Technical Education Act Amendment of 1998, and the Workforce Investment Act of 1998, has influenced school programs and interagency collaborations to promote youth workforce development.

Vocational education plays an important role in the secondary education of students with disabilities. As noted in Chapter 4, about 60% of students with disabilities take a vocational education course in a given semester, with occupationally specific vocational education being taken by about half of students with disabilities and prevocational education by about one-third of them. General education classes are the setting for the large majority of vocational students with disabilities; 71% take vocational education in a general education classroom in a given semester. With the prominent role of general education in the vocational course taking of students with disabilities, it is important to ask the extent to which they have access to the general education curriculum in their general education vocational classes, as was asked in the preceding chapter regarding general education academic classes.

To address that question, this chapter describes the classroom experiences of students with disabilities in general education vocational classes in terms of:

- Curriculum.
- Instructional groupings.
- Instructional materials.
- Classroom activities.
- Discipline practices.
- Testing.
- Factors used in determining students' progress or performance.
- Supports provided to general education vocational teachers who have students with disabilities in their classes.
- Teachers' perceptions of and expectations for student performance.

Information on students' vocational education classes was provided by school staff respondents to the NLTS2 student's school program survey, who were identified as the people best able to describe the overall school programs of individual NLTS2 students. Respondents were asked to report whether specific individual students with disabilities were taking vocational education that semester (spring 2002); if so, whether the vocational course was in a general or special education class; and the characteristics of that class (this latter classroom information was reported in Chapter 5). In addition, if vocational courses were taken in general education settings, school staff respondents were asked to obtain from the general education vocational teacher information about how much the experiences of the student with a disability in the class were the same as or differed from the class as a whole.<sup>1</sup> In addition, information on the kinds of supports offered to general education vocational teachers who had students with disabilities in their classrooms was obtained. Such supports can be important in making the inclusion of students with disabilities in general education classrooms a success. Finally, one view of whether inclusion is successful is obtained from the teacher's perception of the appropriateness of the placement of the specific individual student with a disability in the class and whether that student keeps up with other students in the class.

In addition to this information, and regardless of whether students were taking vocational education courses at the time, respondents were asked to report whether students were taking part in a school-sponsored work experience program during that semester and, finally, whether students had received a variety of vocational services since starting high school. Information on participation in these programs and services follows a description of students' general education vocational classroom experiences. Findings are presented for students with disabilities as a whole and for those who differ in grade level, primary disability category, and selected demographic characteristics, where significant.

## **Instructional Practices in General Education Vocational Classrooms**

Although academic classes normally are the context for issues regarding access to the general education curriculum, such access in vocational education courses also may be important if students with disabilities are to develop marketable skills for future employment. On all dimensions investigated in NLTS2, the majority of students with disabilities have experiences like those of their classmates in general education vocational classes (Exhibit 7-1).<sup>2</sup> In fact, more than 85% of students with disabilities have the same experiences as students in their classes as a whole with regard to curriculum, instructional materials used, and the classroom activities and instructional groupings in which they participate. About three-fourths of students with disabilities are subject to the same discipline practices and grading criteria as their classmates.

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<sup>1</sup> The experiences of specific individual students with disabilities are compared with those of the students in their general education vocational class as a whole. As noted in Chapter 5, those classes include 18 general education students and 4 students with disabilities, on average. Therefore, the comparison is not between students with disabilities and nondisabled students, but between individual students with disabilities and all other students in the class.

<sup>2</sup> School staff respondents were asked to report whether the experiences of individual students with disabilities are "the same" as those of students in the general education vocational classes as a whole, "somewhat different" from the class as a whole, or "very different" from the experiences of the class as a whole. No more than 4% of students with disabilities were reported to have experiences that are "very different" from those of the class as a whole. Therefore, only the extent to which experiences of students with disabilities and the class as a whole are the same is reported in this chapter.

**Exhibit 7-1  
SIMILARITY OF INSTRUCTIONAL EXPERIENCES  
OF STUDENTS WITH DISABILITIES AND  
STUDENTS IN GENERAL EDUCATION  
VOCATIONAL CLASSES AS A WHOLE**

	Percentage	Standard Error
Students with disabilities have the same experience as classmates in general education vocational classes as a whole regarding:		
Curriculum	86.1	2.3
Instructional groupings	86.3	2.3
Instructional materials	91.7	1.9
Class activities	91.9	1.8
Testing methods	58.1	3.4
Discipline	77.5	2.8
Grading criteria	72.8	3.0

Source: NLTS2 Wave 1 student's school program survey.

Fewer (58%) are involved in the same testing procedures as the class as a whole ( $p < .01$  and  $p < .001$  compared with having similar discipline practices and grading criteria).

**Disability variations in classroom experiences<sup>3</sup>.** Although there are no differences across grade levels in these types of classroom experiences, differences between disability categories are apparent. Students with speech impairments are the most likely to have experiences in their general education vocational classes that are the same as those of students in those classes as a whole (Exhibit 7-2); about 95% have access to the same curriculum, instructional materials and groupings, and class activities as their classmates. About 85% or more of

students with learning disabilities, emotional disturbances, or hearing or other health impairments also have the same experiences as students in the class as a whole on these dimensions. About 75% to 85% of these groups are held to similar criteria for grading, and 53% to 65% are expected to use similar testing methods.

**Exhibit 7-2  
SIMILARITY OF INSTRUCTIONAL EXPERIENCES OF STUDENTS WITH DISABILITIES  
AND STUDENTS IN GENERAL EDUCATION VOCATIONAL CLASSES AS A WHOLE,  
BY DISABILITY CATEGORY**

	Learning Dis- ability	Speech/ Language Impair- ment	Mental Retar- dation	Emo- tional Distur- bance	Hearing Impair- ment	Visual Impair- ment	Ortho- pedic Impair- ment	Other Health Impair- ment	Autism	Trau- matic Brain Injury	Multiple Disabili- ties
Percentage reported to have the same experience as students in the class as a whole regarding:											
Curriculum	83.3 (3.0)	95.6 (2.3)	62.0 (5.8)	93.1 (3.6)	89.9 (4.4)	91.3 (6.2)	80.9 (4.8)	87.2 (3.3)	73.2 (8.3)	90.0 (6.7)	66.0 (8.1)
Instructional groupings	89.5 (2.9)	93.2 (2.6)	60.0 (5.9)	86.2 (4.9)	86.9 (4.9)	85.8 (7.7)	89.3 (3.9)	86.0 (3.5)	61.7 (9.1)	87.4 (7.4)	74.1 (7.4)
Instructional materials	94.5 (2.1)	94.2 (2.4)	74.4 (5.2)	93.8 (3.4)	89.9 (4.4)	41.0 (10.9)	87.3 (4.1)	89.2 (3.1)	73.8 (8.3)	68.0 (10.4)	73.8 (7.5)
Class activities	94.8 (2.1)	95.6 (2.1)	70.0 (5.5)	94.4 (3.3)	94.0 (3.4)	89.0 (7.0)	78.2 (5.1)	90.1 (3.0)	67.7 (8.7)	89.6 (6.7)	75.6 (7.3)
Testing methods	61.9 (4.5)	64.1 (5.0)	27.5 (5.5)	61.1 (6.9)	64.6 (6.9)	63.9 (10.7)	52.9 (6.1)	52.6 (5.1)	39.8 (9.2)	51.5 (11.2)	40.6 (8.5)
Discipline	97.0 (1.8)	99.1 (1.1)	92.0 (3.7)	90.0 (4.7)	100.0	98.0 (3.5)	92.9 (4.0)	97.1 (1.8)	59.7 (10.6)	87.4 (9.0)	88.6 (6.5)
Grading criteria	75.4 (4.0)	84.8 (3.7)	41.1 (6.0)	80.5 (5.6)	75.1 (6.3)	88.8 (7.0)	72.6 (5.5)	76.5 (4.3)	41.0 (9.2)	55.4 (11.0)	55.4 (8.4)

Source: NLTS2 Wave 1 student's school program survey.  
Standard errors are in parentheses.

<sup>3</sup> There are too few students with deaf-blindness who take vocational education in general education classrooms to report findings for them separately.

Students with mental retardation, autism, or multiple disabilities are the least likely to have their experiences in a general education vocational classroom be the same as those of students in the class as a whole. Students with visual impairments are provided different instructional materials and teaching methods, but other instructional experiences tend to be the same as the class as a whole. There is little variation across disability categories when considering discipline in the general education vocational classroom, with the exception that 60% of students with autism are subject to the same discipline as general education students, compared with 87% or more of students in other categories ( $p < .01$  to  $p < .001$ ).

**Demographic variations in classroom experiences.** Most of the aspects of general education vocational classroom experiences investigated in NLTS2 do not differ for students with different demographic characteristics. An exception is that boys with disabilities who take general education vocational courses are more likely than girls to be subject to the same discipline practices as the class as a whole (82% vs. 66%,  $p < .05$ ). In addition, exposure to the general education curriculum, without modification, is more likely among students with disabilities from households with incomes of more than \$50,000 than among those from households with incomes of \$25,000 or less (93% vs. 80%,  $p < .05$ ). Consistent with this income-related difference, white students with disabilities are more likely to have an unmodified general education curriculum (90%) than African-American students (75%,  $p < .05$ ). White students with disabilities also are more likely than their African-American counterparts to be subject to the same testing methods as students in their general education vocational class as a whole (64% vs. 47%,  $p < .05$ ). The rates of Hispanic students having curricula and testing methods that are the same as those the class as a whole mirror those of African-American students (76% and 47%), but the differences from white students do not attain statistical significance with the smaller number of Hispanic students.

### **Supports and Information Provided to General Education Vocational Teachers**

General education teachers often are challenged to accommodate the individual learning needs of students with disabilities in their classes. Teachers of general education vocational classes were asked to describe the types of supports they are provided when students receiving special education services are enrolled in their classes.

A large majority of students with disabilities (88%) have teachers who are informed about the needs of their students when they enroll in the class (Exhibit 7-3). About three-fourths of students have teachers who receive consultation from a special educator. Overall, fewer than 20% of students have general education vocational teachers who receive inservice training on the needs of students with disabilities as a result of having such students in their classes. Other types of supports or special arrangements are even less likely to occur. Fewer than 10% of students have teachers who have a smaller class load or an aide assigned to the class, team teach with a special educator, or are provided special materials or equipment to work with students with disabilities. There are no differences across grade levels in information or supports provided to teachers.

**Exhibit 7-3  
INFORMATION AND SUPPORTS PROVIDED  
TO GENERAL EDUCATION VOCATIONAL  
TEACHERS OF STUDENTS WITH DISABILITIES**

	Percentage	Standard Error
Students whose teachers report receiving:		
Information on student needs or abilities	88.5	2.4
Consultation by special education or other staff	73.0	3.3
Inservice training on the needs of students with disabilities	17.7	2.8
Smaller class load	8.9	2.1
Teacher aides, instructional assistants, or aides for individual students	9.1	2.1
Co-teaching with special education staff	8.2	2.0
Special materials or equipment to use with students with disabilities	6.1	1.8

Source: NLTS2 Wave 1 student's school program survey.

**Disability variations in information and supports provided to teachers.**

Reflecting the diverse array of learning needs of students with disabilities in general education vocational classes, there is considerable variation in the supports provided to teachers when those students are in their classes.

Although information about the needs of individual students with disabilities is provided to the teachers of the large majority of students in all disability categories, teachers are provided information about 80% or fewer of students with autism, emotional disturbances, or speech or other health impairments. In contrast, more than 90% of students with learning disabilities, visual impairments, or multiple disabilities have teachers who receive

information about individual students' needs (Exhibit 7-4). Inservice training is more often provided to teachers when students with hearing or visual impairments are enrolled (40% vs. fewer than 20% in most other categories,  $p < .01$  comparing students with hearing impairments

**Exhibit 7-4  
INFORMATION AND SUPPORTS PROVIDED TO GENERAL EDUCATION  
VOCATIONAL TEACHERS, BY DISABILITY CATEGORY**

	Learning Disability	Speech/Language Impairment	Mental Retardation	Emotional Disturbance	Hearing Impairment	Visual Impairment	Orthopedic Impairment	Other Health Impairment	Autism	Traumatic Brain Injury	Multiple Disabilities
Percentage whose teachers received:											
Information on student needs or abilities	91.2 (3.0)	79.5 (5.0)	86.8 (4.1)	78.6 (6.6)	84.0 (5.7)	91.4 (6.8)	88.8 (4.1)	78.2 (4.4)	73.8 (8.0)	86.5 (8.1)	94.0 (4.3)
Consultation by special education or other staff	71.0 (4.8)	74.3 (5.4)	79.4 (5.0)	79.8 (6.4)	82.5 (5.9)	82.6 (9.2)	78.8 (4.8)	70.2 (4.9)	74.9 (7.9)	75.4 (10.2)	69.9 (8.2)
Inservice training on the needs of students with disabilities	17.3 (4.0)	19.7 (4.9)	17.8 (4.7)	16.6 (5.9)	40.4 (7.6)	40.2 (11.9)	16.2 (4.8)	15.1 (3.8)	25.1 (7.9)	11.3 (7.5)	17.6 (6.8)
Smaller class load	6.9 (2.7)	9.6 (3.7)	17.9 (4.7)	14.8 (5.7)	1.4 (1.8)	4.0 (2.4)	10.0 (3.9)	7.2 (2.8)	10.9 (5.7)	2.7 (3.9)	17.6 (6.8)
Teacher aides, instructional assistants, or aides for individual students	6.8 (2.7)	8.6 (3.5)	15.8 (4.5)	9.6 (4.7)	11.7 (5.0)	19.8 (9.7)	30.2 (6.0)	10.1 (3.2)	41.9 (9.0)	11.4 (7.6)	40.8 (8.8)
Co-teaching with a special educator	7.0 (2.7)	9.4 (3.6)	13.5 (4.2)	10.4 (4.9)	5.1 (3.4)	6.7 (6.1)	9.6 (3.9)	7.0 (2.7)	9.0 (5.2)	11.1 (7.5)	17.6 (6.8)
Special materials or equipment to use with students with disabilities	5.3 (2.4)	5.6 (2.9)	5.3 (2.7)	5.2 (3.5)	13.8 (5.3)	61.4 (11.8)	22.4 (5.5)	8.5 (3.0)	6.9 (4.6)	10.1 (7.2)	14.8 (6.4)

Source: NLTS2 Wave 1 student's school program survey. Standard errors are in parentheses.

and learning disabilities). Smaller classes are most common for teachers who have students with mental retardation or multiple disabilities in their general education vocational classes (18% vs. 7% for students with learning disabilities,  $p < .05$ ). Aides are more likely to be used when students with orthopedic impairments, autism, or multiple disabilities are in a general education vocational class (e.g., 41% of students with multiple disabilities vs. 7% of those with learning disabilities have teachers with this form of support,  $p < .001$ ). Special materials are at least twice as likely to be provided to teachers of students with visual impairments as to those of students in any other category (61% vs. 22% or fewer,  $p < .01$  or  $p < .001$ ).

**Demographic variations in information and supports provided to teachers.** The few differences in classroom experiences for students who differ in demographic characteristics involve students from households with different levels of income. Specifically, students with disabilities from households with incomes of \$25,000 or less are more likely than those from households with incomes greater than \$50,000 to have teachers who receive inservice training because those students are enrolled in their general education vocational classes (23% vs. 9%,  $p < .05$ ). Also, students from middle-income households (those with incomes from \$25,001 to \$50,000) are more likely to have teachers who receive consultation from a special educator when students with disabilities are in their classes (88% vs. 71% of lower-income students and 61% of upper-income students,  $p < .05$  and  $p < .01$ ) and are more likely than upper-income students to have a reduced class size (16% vs. 3%,  $p < .05$ ).

### **Teachers' Perceptions and Expectations of Students with Disabilities in General Education Vocational Classes**

To gain one perspective on whether the effort to include students with disabilities in general education vocational classes is succeeding for teachers and students with disabilities in those classes, school staff were asked to report teachers' perceptions of whether the placement of specific individual students with disabilities in their general education vocational classes is appropriate. They also were asked to indicate whether those students are expected to keep up with other students in the class and whether they generally do so.

School staff report that being in general education vocational classes is "very appropriate" for the vast majority of students with disabilities (86%, Exhibit 7-5). Thirteen percent of students with disabilities have general education vocational teachers who report that their placement in class is "somewhat appropriate;" only 1% have teachers who consider their placement "not very appropriate" or "not at all appropriate." Virtually all students in general education vocational classes (95%) are expected to keep up with other students in the class, and the majority (87%) do so. There are no differences in these perceptions across grade levels or for students with different demographic characteristics.

However, as with other aspects of students' vocational education experiences, teachers' perceptions of the students with disabilities in their general education vocational classes differ by disability category. The placement of 90% or more of students with learning disabilities, speech or visual impairments, or traumatic brain injuries is reported to be "very appropriate," as is placement of at least 80% of students with autism or with hearing, orthopedic, or other health impairments. About three-fourths of students with emotional disturbances are reported to be very appropriately placed in general education vocational classes, as are 63% of those with mental retardation and 58% of those with multiple disabilities.

**Exhibit 7-5**  
**TEACHERS' PERCEPTIONS OF STUDENTS WITH DISABILITIES IN GENERAL  
EDUCATION VOCATIONAL CLASSES, BY DISABILITY CATEGORY**

	All Youth	Learning Disability	Speech/Language Impairment	Mental Retardation	Emotional Disturbance	Hearing Impairment	Visual Impairment	Orthopedic Impairment	Other Health Impairment	Autism	Traumatic Brain Injury	Multiple Disabilities
Percentage whose teacher reports their placement in the general education vocational class is:												
Very appropriate	85.5 (2.4)	89.8 (2.8)	91.4 (2.9)	63.1 (5.8)	74.3 (6.2)	81.9 (5.5)	90.0 (6.5)	83.5 (4.5)	85.2 (3.5)	79.8 (7.4)	95.8 (4.4)	58.4 (8.3)
Somewhat appropriate	13.4 (2.3)	10.0 (2.8)	7.9 (2.8)	32.8 (5.6)	20.1 (5.7)	17.4 (5.4)	5.1 (4.8)	14.3 (4.3)	13.4 (3.4)	19.0 (7.2)	2.6 (3.5)	40.4 (8.2)
Not very or not at all appropriate	1.1 (.7)	.2 (.4)	0.7 (.9)	4.1 (2.4)	5.6 (3.3)	0.7 (1.2)	5.0 (4.8)	2.2 (1.8)	1.4 (1.2)	1.1 (1.9)	1.5 (2.8)	1.1 (1.7)
Percentage of students:												
Expected to keep up	94.7 (1.5)	97.5 (1.4)	99.5 (.7)	71.8 (5.4)	95.2 (3.0)	98.0 (2.0)	94.4 (5.0)	89.8 (3.7)	97.1 (1.7)	79.0 (7.4)	88.2 (7.2)	80.7 (6.6)
Who do keep up	86.9 (2.3)	90.4 (2.8)	95.4 (2.2)	70.6 (5.5)	75.7 (6.1)	88.8 (4.5)	91.5 (6.0)	84.7 (4.4)	83.8 (3.7)	80.7 (7.2)	85.3 (7.9)	78.0 (7.0)

Source: NLTS2 Wave 1 student's school program survey.  
Standard errors are in parentheses.

Ninety percent or more of general education vocational students in most disability categories are expected to keep up with other students in those classes. Exceptions are categories of students whose placements also are less likely to be considered appropriate—students with mental retardation, autism, or multiple disabilities; between 72% and 81% of those students are expected to keep up in class.

The large majority of students with disabilities in every category are reported to be successful in keeping up with other students in their general education vocational classes (71% to 95%,  $p < .001$ ). Those who are somewhat less likely to keep up are again those whose placement is less likely to be considered appropriate by their teachers—students with mental retardation, emotional disturbances, autism, or multiple disabilities (71% to 81%).

### **Participation in School-Sponsored Work Experience Programs and Vocational Services**

In addition to vocational education classes, many high schools offer work experience programs and other career or vocational services to support students both with and without disabilities in preparing for the working world. This section reports the participation of students with disabilities in school-sponsored work experience programs in a given semester. In addition, it reports the rates at which they have received a variety of vocational services since starting high school (middle school students with disabilities are not included in this discussion). Findings are presented for students with disabilities whether or not they are taking vocational education courses in either general or special education classes.

**Exhibit 7-6  
WORK EXPERIENCE AND VOCATIONAL SERVICES  
PROVIDED TO HIGH SCHOOL STUDENTS WITH  
DISABILITIES, BY GRADE LEVEL**

	All Students	Grade Level		
		9th Grade	10th Grade	11th or 12th Grade
Percentage currently participating in:				
Any school-sponsored work experience	24.7 (1.8)	12.9 (3.1)	17.3 (3.2)	37.5 (3.4)
On-campus work experience	16.6 (1.6)	10.9 (2.9)	14.1 (2.9)	21.0 (3.0)
Off-campus work experience	13.3 (1.5)	3.1 (1.7)	7.8 (2.3)	24.6 (3.1)
Percentage receiving since starting high school:				
Career skills assessment	50.6 (2.3)	32.7 (4.5)	48.9 (4.3)	61.4 (3.5)
Career counseling	44.4 (2.3)	23.0 (4.0)	43.9 (4.2)	58.1 (3.6)
Job readiness training	36.4 (2.2)	19.8 (3.8)	32.1 (4.0)	46.4 (3.6)
Job search instruction	35.9 (2.2)	14.5 (3.4)	31.6 (4.0)	50.5 (3.6)
Job shadowing	19.2 (1.8)	9.1 (2.8)	14.4 (3.0)	26.9 (3.2)
Tech Prep program	11.7 (1.5)	9.1 (2.8)	8.9 (2.4)	15.5 (2.6)
Job placement support	9.5 (1.4)	1.0 (1.0)	7.1 (2.2)	15.4 (2.6)
Job coaching	7.7 (1.2)	1.2 (1.0)	4.7 (1.8)	12.6 (2.4)
Internship/apprenticeship	2.3 (.7)	.3 (.5)	1.1 (.9)	4.1 (1.4)
Entrepreneurship program	1.0 (.5)	.4 (.6)	1.0 (.8)	1.4 (.8)

Source: NLTS2 Wave 1 student's school program survey.  
Standard errors are in parentheses.

### School-Sponsored Work Experience Programs

Work experience programs offer students the opportunity to gain valuable on-the-job experience in the work world. Research has shown that paid work experience is more likely to result in paid employment after high school (Phelps & Hanley-Maxwell, 1997). Opportunities for work experience sponsored by the school may be for credit or pay, or both, and may occur on campus (for example, assisting in the school office) or in the community.

School-sponsored work experience is a program in which about one-fourth of students with disabilities participate (Exhibit 7-6). However, it is much more likely to be part of the school programs of high school juniors and seniors than students in earlier grades (38% vs. 13% and 17%,  $p < .001$ ). Between 11% and 21% of students with disabilities participate in on-campus work experience ( $p < .05$ ), with the higher percentage occurring in the last 2 years of

high school. Only a very small percentage of students participate in off-campus work experience before the 11th grade, but 25% do so as juniors or seniors ( $p < .001$ ).

### Career and Vocational Services

School staff were asked to report the extent to which specific individual students with disabilities receive 10 types of vocational or career services during high school, listed in Exhibit 7-7. Vocational skills assessment is the only service provided to at least half of students with disabilities; 44% of students receive career counseling, and about one-third take part in job readiness training or job search instruction. Other types of services are more specialized and relate to training of specific skills (job shadowing, coaching) or to participation in a special program (Tech Prep, internships) and have lower rates of participation. About one in five students with disabilities take part in job-shadowing experiences, and 12% take part in Tech Prep



**Exhibit 7-7**  
**WORK EXPERIENCE AND VOCATIONAL SERVICES PROVIDED TO HIGH SCHOOL STUDENTS WITH DISABILITIES, BY DISABILITY CATEGORY**

	Learning Disability	Speech/Language Impairment	Mental Retardation	Emotional Disturbance	Hearing Impairment	Visual Impairment	Orthopedic Impairment	Other Health Impairment	Autism	Traumatic Brain Injury	Multiple Disabilities
Percentage currently participating in:											
Any school-based work experience	20.6 (2.6)	18.5 (2.7)	48.4 (3.3)	17.1 (3.1)	21.0 (3.3)	29.3 (4.6)	23.4 (3.0)	23.3 (2.8)	50.2 (3.4)	28.5 (5.6)	53.8 (3.8)
On-campus work experience	12.3 (2.2)	12.6 (2.4)	39.5 (3.3)	9.0 (2.4)	16.4 (3.1)	23.6 (4.3)	15.7 (2.5)	15.9 (2.4)	41.0 (3.4)	22.8 (5.2)	48.6 (3.9)
Off-campus work experience	12.0 (2.1)	8.7 (2.0)	23.0 (2.9)	11.4 (2.7)	8.8 (2.3)	10.8 (3.2)	10.9 (2.2)	11.9 (2.2)	28.5 (3.1)	12.5 (4.2)	19.1 (3.1)
Percentage receiving since starting high school:											
Career skills assessment	50.9 (3.5)	52.2 (3.9)	43.5 (3.7)	58.3 (4.5)	56.0 (4.4)	48.4 (5.6)	44.6 (4.0)	54.5 (3.5)	32.8 (3.7)	39.0 (6.6)	36.0 (4.2)
Career counseling	48.0 (3.5)	41.7 (3.9)	31.3 (3.5)	45.9 (4.6)	46.3 (4.4)	48.1 (5.6)	33.3 (3.8)	43.9 (3.5)	20.3 (3.2)	33.7 (6.4)	23.6 (3.8)
Job readiness training	33.4 (3.3)	26.9 (3.5)	54.3 (3.7)	35.6 (4.4)	32.2 (4.1)	29.4 (5.1)	35.2 (3.8)	34.0 (3.3)	50.6 (3.9)	35.1 (6.4)	50.2 (4.4)
Job search instruction	35.1 (3.4)	29.6 (3.6)	43.2 (3.7)	38.7 (4.5)	29.7 (4.1)	24.1 (4.8)	30.7 (3.7)	34.5 (3.4)	22.5 (3.3)	31.9 (6.3)	30.6 (4.1)
Job shadowing	19.1 (2.8)	14.6 (2.8)	25.4 (3.2)	14.4 (3.2)	23.1 (3.7)	22.0 (4.6)	18.9 (3.1)	16.6 (2.6)	27.0 (3.5)	19.6 (5.3)	22.4 (3.7)
Job skills training	12.2 (2.3)	10.9 (2.4)	22.3 (3.1)	16.9 (3.4)	11.9 (2.9)	12.8 (3.7)	16.2 (2.9)	11.9 (2.3)	27.5 (3.5)	8.3 (3.7)	30.1 (4.1)
Job placement support	9.1 (2.0)	6.9 (2.0)	9.0 (2.1)	14.3 (3.2)	8.3 (2.4)	5.7 (2.6)	6.0 (1.9)	8.2 (1.9)	7.8 (12.1)	13.1 (4.5)	7.8 (2.4)
Job coaching	5.2 (1.6)	5.2 (1.7)	18.5 (2.9)	8.0 (2.5)	9.7 (2.6)	6.1 (2.7)	9.7 (2.4)	7.5 (1.9)	21.9 (3.2)	8.2 (3.7)	20.3 (3.6)
Tech Prep program	13.5 (2.4)	11.1 (2.5)	3.9 (1.4)	12.5 (3.0)	8.8 (2.5)	12.3 (3.7)	9.6 (2.3)	13.3 (2.4)	5.2 (1.7)	9.8 (4.0)	2.6 (1.4)
Internship/apprenticeship	1.4 (.8)	4.3 (1.6)	5.0 (1.6)	1.9 (1.2)	3.5 (1.6)	4.4 (2.3)	3.3 (1.4)	4.9 (1.5)	1.4 (.9)	7.2 (3.5)	3.7 (1.7)
Entrepreneurship program	1.2 (.8)	2.2 (1.1)	0.1 (.2)	0.6 (.7)	1.2 (1.0)	1.1 (1.2)	0.4 (.5)	1.0 (.7)	0.0 (.0)	0.7 (1.1)	2.0 (1.2)

Source: NLTS2 Wave 1 student's school program survey.  
Standard errors are in parentheses.

programs. Other services are provided to 10% or fewer of students with disabilities in their high school years.

As with classroom-based vocational instruction, the receipt of each type of vocational service is higher for students at each successive grade level. For example, by the time students with disabilities are juniors or seniors, half or more (50% to 61%), have received career skills assessments, career counseling, or job search instruction, compared with 14% to 33% of high school freshmen ( $p < .001$  for each service). Similarly, 13% and 27% of students in 11th and 12th grades have taken part in job coaching or job shadowing, respectively, compared with 1% and 9% of freshmen ( $p < .001$ ).

## **Disability Variations in Participation in School-Sponsored Work Experience Programs and Vocational Services**

The extent to which students with disabilities participate in vocational programs and services other than vocational education classes varies across disability categories (Exhibit 7-7). For example, participation in school-sponsored work experience programs ranges from 17% to 29% for students in most categories, but about half of students with mental retardation, autism, and multiple disabilities participate (48% to 54%,  $p < .001$  compared with students with learning disabilities). The greater participation of students with mental retardation and autism in work experience holds for job placements both on the school campus and in the community. Students with multiple disabilities are more likely than most students to have work experience placements on the school campus but do not work off campus any more than students in other disability categories.

Differences in the types of other career and vocational services provided to students with different disabilities also are pronounced. For example, assessment of career skills and career counseling are more often provided to students with learning disabilities, emotional disturbances, or speech, hearing, visual, or other health impairments (48% to 58% for assessment and 42% to 48% for counseling) than to students in many other disability categories; for example, about one-third and one-fourth of students with multiple disabilities receive these services ( $p < .01$  and  $p < .001$ ). In contrast, half or more of students with mental retardation, autism, or multiple disabilities receive job readiness training, compared with about one-third or fewer of students in other disability categories ( $p < .01$  comparing students with multiple and learning disabilities). Job coaching also is more often provided to students with mental retardation, autism, and multiple disabilities than to students in other disability categories.

There are no differences in participation in work experience programs or in receipt of career or vocational services for students with disabilities with different demographic characteristics.

### **Summary**

Participation in vocational education is the norm for the majority of students with disabilities; about 60% of them take some kind of vocational education in a given semester, including about half who take occupationally specific vocational education and one-third who take prevocational education; some students take both types of courses. The general education classroom is the most typical setting for vocational education; students with disabilities are more than twice as likely to take vocational education in general education than in special education settings, particularly occupationally specific vocational education.

NLTS2 findings suggest that in their general education vocational classes, the majority of students with disabilities have access to the general education curriculum. For the majority of students with disabilities, there is little modification to the teacher-driven aspects of the course—the curriculum, materials used, or classroom activities or instructional groupings—when they are in general education vocational classes. Somewhat more modification is reported for aspects of the classroom experience in which student behavior or performance figures more prominently—grading criteria and discipline practices. However, the greatest amount of modification is reported for testing practices, perhaps reflecting the fact that modifications or accommodations in testing are common in the IEPs of students with disabilities. Not only are most aspects of the general education vocational classroom experience the same for the majority of students with

disabilities as for the class as a whole, the vast majority of students with disabilities are expected to keep up with their classmates. Fortunately, most do, resulting in the observation that the placement of the large majority of students with disabilities in the general education vocational classroom is “very appropriate.”

General education vocational teachers are given a variety of supports to help them succeed in including students with disabilities in their classes. The majority of students with disabilities have teachers who are informed and receive some consultation from special educators about the students’ special learning needs. However, other supports, such as inservice training, a reduced student load, an aide or assistant, or special materials, are less common. Appropriately, the kinds of supports that general education teachers receive vary widely by disability category, often reflecting the needs of the particular students in their classes.

School-sponsored work experience is part of the school program for about one-fourth of students with disabilities in a given semester. Other vocational services are accessed by many students with disabilities, although only career assessment is provided to at least half of students with disabilities who are currently in high school. Other vocational services, from Tech Prep programs to job coaching, are provided to much smaller percentages of students, however all programs and services are more common among high school juniors and seniors with disabilities than younger students.

As with most other aspects of their educations, vocational course taking and the receipt of vocational services differ with the disability of the student. Two patterns emerge. Students with mental retardation, autism, or multiple disabilities are the most likely to be enrolled in vocational education in a special education or other setting. However, when they are in general education vocational classrooms, their experiences are less like those of students in the class as a whole on most of the dimensions addressed in NLTS2. They also are the most likely to participate in work experience and to receive such vocational services as job readiness training and job coaching.

Students with learning disabilities or visual, hearing, orthopedic, or other health impairments (and, to a lesser extent, students with emotional disturbances) have a much different set of experiences with vocational education and career programs and services. Fewer of them participate in those activities than the first group of students described. When they do take vocational education courses, it is usually in general education classrooms, where they are the most likely to be considered appropriately placed, to have classroom experiences that are the same as those of other students, to be expected to keep up with students in the class as a whole, and to be successful in doing so. The vocational services they receive are most likely to be career assessments, rather than those services typical of the group of students described in the preceding paragraph.

With few exceptions, classroom experiences and participation in work experience and other vocational services do not differ by gender, ethnicity, or income.

This chapter has examined the general education vocational classroom experiences and the participation in work experience programs and vocational services of secondary students with disabilities. The experiences of these students are shaped in part by the stage of their school careers and by the nature of their disabilities. However, other factors, such as graduation requirements and the historical role of vocational education as an elective, also may influence the kinds of experiences reported in this chapter.