



Seeking Effective Policies and Practices for Students with Special Needs



Rennie Center for Education Research & Policy

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About Rennie Center for Education Research & Policy

The Rennie Center's mission is to develop a public agenda that informs and promotes significant improvement of public education in Massachusetts. Our work is motivated by a vision of an education system that creates the opportunity to educate every child to be successful in life, citizenship, employment and life-long learning. Applying nonpartisan, independent research, journalism and civic engagement, the Rennie Center is creating a civil space to foster thoughtful public discourse to inform and shape effective policy. For more information about the Rennie Center and our current work, visit www.renniecenter.org, or call 617.354.0002.

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INTRODUCTION

A fundamental tenet of public education is that all children deserve an opportunity to receive a quality education, including students who need different services in order to learn. Providing effective instruction to special education students¹ is an important part of the school reform agenda in Massachusetts and across the nation. Both Massachusetts and federal law dictate that special education students receive the same quality education as is provided for all students.

Yet, as we pass the 35th anniversary of Chapter 766, Massachusetts' Comprehensive Special Education Act, which guarantees the rights of all Massachusetts students with disabilities to an educational program best suited to their needs, many students with special needs are struggling to develop the skills and academic competencies they need to compete and thrive. Massachusetts' special education students' standardized test scores are consistently lower than the state average, and this population is less likely to graduate from high school than general education students.

Recent federal and state standards-based reform initiatives have brought to light the performance of special education students and put in place sanctions designed to hold schools and districts accountable for meeting the needs of these students. This system requires that schools and districts disaggregate subgroups' performance on standardized assessments, including that of special education students and holds schools accountable for making adequate yearly progress (AYP) with each subgroup.² A large portion of the schools that are not making AYP have been identified because they are failing to make progress with their subgroups of special education students. Even demographically advantaged districts, whose students score well on the Massachusetts Comprehensive Assessment System tests (MCAS), face challenges in improving the academic performance of their special education students.

In addition to accountability mandates and the moral obligation to ensure a high quality education for all students—including those with special needs—it is clear that there are tangible benefits to Massachusetts in providing effective services to these students.

- **In order to effectively compete in a global economy, Massachusetts must seek to educate all of its citizens well.** Currently, Massachusetts faces a work force crisis due to the out-migration of younger workers and an overall decline in its population. Further, well-paying jobs for those without college degrees or advanced skills have become considerably harder to find in the Commonwealth than in other parts of the nation.³
- **Providing appropriate and cost-effective special education services is even more important during times of fiscal uncertainty and budgetary constraints.** With special education costs accounting for about 20% of overall school spending, educators must make sure that dollars spent on special education students actually prepare them for success in life and work.

The purpose of this report is to describe the current status of special education in Massachusetts and to highlight best practices in districts and schools that are achieving high rates of growth in the performance of special education students. The report is organized into two parts:

- **Part 1: Status of Special Education in Massachusetts**
This section presents an overview of special education in Massachusetts, including a summary of special education legislation, the incidence of students receiving special education services by type of district, the distribution of students by disability type, special education expenditures, and the performance of students with disabilities on the Massachusetts Comprehensive Assessment System (MCAS) tests.

1 Throughout this report the terms "special education students," "students with disabilities," and "students with special needs" are used interchangeably.

2 AYP is defined in the No Child Left Behind Act of 2002 as an individual state's measure of progress toward the goal of 100 percent of students achieving at a proficient level on state academic standards in at least English language arts and math by the year 2014. It sets the minimum level of proficiency that the state, its school districts, and schools must achieve each year on annual tests and related academic indicators.

3 Sum, A., Khatiwada, I., McLaughlin, J., Palma, S., Tobar, P. (July 2006). *Mass Economy: The Labor Supply and Our Economic Future*. Boston: MassINC., p. 6.

■ **Part 2: Districts and Schools Making Progress with Students with Disabilities** This section describes the provision of special education services in four districts and three schools that have had notable improvement in the percentages of special education students scoring in the Advanced or Proficient categories on the MCAS tests between 2004 and 2008. The section begins with a summary of the policies and practices that were common across all of the schools and districts studied. Also included are profiles of each school and district, which highlight and provide more detail about some of their innovative and unique practices and policies.

BACKGROUND AND CONTEXT

Students with special needs represent about one in seven students⁴ in the United States, and one in six in Massachusetts.⁵ These students comprise the second-largest education sub-group in Massachusetts, representing 17% of all students, second only to low-income students, who represent 31% of public school students in the Commonwealth.⁶ State and federal legislation guarantees students with disabilities the right to a “free appropriate public education”⁷ that will equip them to be successful adults in a changing world. Yet, schools in Massachusetts and the nation often struggle to adequately meet these students’ needs.

A 2002 federal report documented the stark reality that faces many students with disabilities:⁸

- **More likely to drop out.** Young people with disabilities drop out of high school at twice the rate of their peers.
- **Less likely to enroll in higher education.** Enrollment rates of students with disabilities in higher education are 50% lower than enrollment among the general population.

■ **Children of minority status are over-represented in some categories of special education.** African-American children are twice as likely as White children to be labeled mentally retarded and placed in special education. They are also more likely to be labeled emotionally disturbed and placed in special education.

■ **Most public school educators do not feel well prepared to work with children with disabilities.** Only 21% of public school teachers said they felt very well prepared to address the needs of students with disabilities, and another 41% said they felt moderately well prepared.

■ **Of those students with “specific learning disabilities,” 80% are classified as such simply because they have not learned how to read.** Up to 40% of children receiving special education services nationwide are not able to read. Reading difficulties may not be these students’ only area of difficulty, but it is the area that resulted in special education placement. Few children placed in special education learn to read and learn at a level comparable to their peers.

Special education services have evolved over the past forty years, initially as part of the federal Elementary and Secondary Education Act of 1965 (ESEA) and its amendments, which set aside grants to state-operated schools to assist underprivileged and disabled children. In 1968, ESEA amendments broadened the range and scope of these special educational services, which had previously been “discretionary” programs.

Massachusetts led the way in providing comprehensive special education services in its public schools when the state Legislature passed Chapter 766 in 1972. This law guaranteed the rights of all young people with special needs (ages 3–22) to an educational program best suited to their needs. Before Chapter 766, “the educational services provided by the Commonwealth of Massachusetts for students with disabilities could

4 U.S. Department of Education, National Center for Education Statistics (2006). *Digest of Education Statistics, 2005* (NCES 2006-030), Chapter 2.

5 Massachusetts Department of Elementary and Secondary Education. State Profile: Selected Populations (2008-09). Available at: <http://profiles.doe.mass.edu/profiles/student.aspx?orgcode=00000000&orgtypecode=0&leftNavId=305>.

6 Ibid.

7 Public Law 108-446, 108th Congress, Individuals with Disabilities Education Improvement Act of 2004. 20 USC 1400, pg. 118 Stat 2649.

8 President’s Commission on Excellence in Special Education (2002). *A new era: Revitalizing special education for children and their families*. Washington: U.S. Department of Education.

best be described as fragmented, underfunded, highly segregated, unreliable, and driven by professional interest. ... Public schools were unclear about their responsibility to educate students with disabilities and, too often, had insufficient numbers of professionals, programs, and classrooms to provide the necessary services.”⁹ Enactment of Chapter 766 codified the state’s responsibility to provide a quality education to all children with special needs.

In the 35 years since Chapter 766 was enacted, schools and districts have been working to fully implement the provisions of the legislation—with varying degrees of success.

METHODOLOGY

Research for this study involved an analysis of extant data on Massachusetts public school districts, including student performance on MCAS, site visits and interviews with superintendents, district special education administrators and school-level special education staff, and a survey of district special education directors/coordinators.

Analysis of extant data

Publicly available data on Massachusetts public school districts and data from the 2004-2008 MCAS assessments were used to develop an overview of special education in Massachusetts. The analysis focused on five groups: 1) all special education students statewide; 2) special education students in Massachusetts’ ten major cities; 3) special education students in the top 50 demographically advantaged communities (defined as those with the lowest percentages of students receiving free and reduced priced lunch); 4) vocational technical schools; and 5) charter schools. (See page 6 for a description of these groups.) The report describes differences in special education characteristics (percentage of students identified for special education services, distribution of special

What is special education?

Special education is individually planned and systematically monitored instruction involving techniques, exercises, and subject matter designed for students whose learning needs cannot be met by a standard school curriculum. Services include: teaching techniques, specialized equipment and materials, and other resources and interventions designed to help special education students achieve a higher level of success than would be possible in a typical classroom setting.¹⁰

Special education services in the United States come under the ambit of the federal Individuals with Disabilities Education Improvement Act, which is designed to give “children with disabilities and the families of such children access to a free appropriate public education and improve educational results for children with disabilities.” The law also ensures that the rights of children with disabilities and their parents are protected; that educators and parents have the necessary tools to improve educational results for children with disabilities; and to assess and ensure the effectiveness of efforts to educate children with disabilities.¹¹

A student who is identified as needing special education can receive a variety of services appropriate to his or her specific situation as identified in the student’s Individual Education Program (IEP). Students are placed in a specific disability category and in an educational placement environment appropriate to individual needs. For most students, services are provided in the child’s school, although a small percentage of students are served in an outside placement or collaborative.

education students by type of disability, and special education expenditures) and MCAS performance of students in these groups.

Site visits and interviews

This report included site visits and in-person interviews with a small sample of school and district personnel in districts and schools that have shown progress in moving students with special needs to higher levels of achievement. (A description of the

9 Fafard, M. (March 1995). “Twenty years after Chapter 766: The backlash against special education in Massachusetts.” *Phi Delta Kappan* 76. n7 536(2). Available at: Academic OneFile. Gale. Boston Public Library.

10 Public Law 108-446, 108th Congress, Individuals with Disabilities Education Improvement Act of 2004, 20 USC 1400, pg. 118 Stat 2649.

11 Ibid.

school and district selection criteria appears in the following section.) Interviews were conducted with each district’s leadership team and with educators at the selected school levels (elementary, middle, high) who work with students with special needs.

Interviews with district personnel included questions about specific district practices, policies, and activities that they saw as leading to achievement gains by their students with special needs. Interviews with school staff focused on understanding what was happening at the school-level and in the classroom that was contributing to improved MCAS performance by special education students.

Selection criteria

Four districts, two vocational technical high schools, and one additional school that is “beating the odds” were selected for site visits and interviews. The districts were selected based on their special education students’ progress on MCAS over time (2004 to 2008). Schools whose special education students performed above expected levels between 2004 and 2008 were selected for inclusion in the study. Districts and schools that exhibited exemplary progress at either the elementary, middle or high school level were identified. The research design did not include any districts that demonstrated consistent improvement at all school levels.

It is important to note that while standardized tests such as the MCAS provide valuable information about student performance in tested areas, the MCAS does not provide a complete picture of student progress. This report is not designed to be a definitive analysis

of the efficacy of special education in Massachusetts. Rather, it is designed to provide information about the state of special education in the Commonwealth a decade and a half after the passage of comprehensive education reform legislation and to highlight districts and schools that are showing promise in moving students with special needs to higher levels of achievement.

Districts who met the following criteria were selected for the study:

- The percentage of special education students scoring in the Advanced and Proficient performance categories on MCAS increased over time (between 2004 and 2008). Slight decreases from one year to the next did not disqualify a district from consideration if there was a net increase over the period of four academic years.
- The selected districts ranked in the top 5% to 10% of the state in terms of net increase in the percentage of special education students scoring in the Advanced or Proficient category over four academic years, between 2004 and 2008.
- There were at least 50 special education students tested each year.

Districts selected based on their exemplary progress with special education students at the elementary, middle and high school levels are shown in Table 1.

Also included in the study is East Somerville Community School (K-8), which has a high concentration of low-income and minority students, but is “beating the odds” in that its special education students are achieving at higher levels than its peers.¹²

Table 1. Districts selected for site visits and interviews

Level	MCAS Performance Indicators	District
Elementary	Grade 4 ELA and Math	Shrewsbury Public Schools (K-5)
Middle	Grade 6 Math, Grade 7 ELA, Grade 8 Math	Braintree Public Schools (6-8)
High	Grade 10 ELA and Math	
Comprehensive		Arlington Public Schools Plymouth Public Schools
Vocational Technical		Assabet Valley Regional Technical Montachusett Regional Vocational Technical

12 For East Somerville Community School, 2005 to 2008 MCAS data was used, since the school did not participate in MCAS in 2004. MCAS performance indicators were Grade 4 ELA and Math; Grade 6 Math; Grade 7 ELA; and Grade 8 Math.

Two additional criteria were used to select this “beating the odds” school:

- At least 60% of its students are eligible for free or reduced price lunch.
- The percentage of special education students in the Advanced and Proficient performance categories on the MCAS increased over time at a faster rate than both other schools in the district and demographically similar schools statewide.¹³

PART 1: STATUS OF SPECIAL EDUCATION IN MASSACHUSETTS

This section of the report presents an overview of special education in Massachusetts. The section begins with a summary of the Commonwealth’s special education legislation and compliance procedures, and is followed by a discussion of the incidence of students receiving special education. Presented here are the percentages of students receiving special education services by type of district and the distribution of students by disability type, special education expenditures, and the performance of students with disabilities on the Massachusetts Comprehensive Assessment System (MCAS) tests.

Legislation

The Massachusetts Comprehensive Special Education Act, known as Chapter 766, requires local school systems to:

1. Find and evaluate children with special needs and problems.
2. Develop individual programs for each child with special needs.
3. Provide the required services for children with special needs within the school system, if possible. If not, then the services will be provided by another institution or special program.¹⁴

¹³ Demographically similar schools were selected based primarily on percentage of low-income students.

¹⁴ Chapter 71B of the General Laws; Chapter 766 of the Acts of 1972; 603CMR28.00.

¹⁵ Federation of Children with Special Needs web site. <http://www.fcsn.org/aboutus/ed/ed15.php>.

Survey

A statewide survey of special education administrators collected information about recent changes in special education population characteristics, instructional practices, parental involvement, and compliance issues. A total of 432 Massachusetts district-level special education directors/coordinators were invited to participate in the study; a total of 131 participated. In districts that do not have a special education director/coordinator, the superintendent was invited to participate or designate someone to participate on behalf of the district.

The standard that districts must meet today is that of providing a “free appropriate public education.” This is somewhat less specific than the previous language of “maximum possible development,” which was changed in January 2002.¹⁵

Incidence of special education students

During the 2007-08 school year, 164,298 students in Massachusetts were enrolled in special education. These students represent 17% of Massachusetts’ public school students. The percentage of students requiring special education services has grown steadily since the 2000-01 school year, when 15% of students were enrolled in special education programs. While a two percentage point increase over seven years may not seem significant, any growth of the special education population increases the challenge faced by educators working to meet the increasingly diverse needs of all students in their classrooms.

The incidence of students identified as needing special education services varies by type of school district. As shown in Table 2 on page 6, vocational technical schools have the highest percentage of special education students, followed by the ten urban districts.

Table 2. Percentage of Students in Special Education by Type of District 2006-2007

Type of District	% of Students
Vocational Technical	23%
Urban Ten	19%
Statewide	17%
Demographically Advantaged	15%
Charter	12%

Charter schools and demographically advantaged districts have the lowest incidence of special education students.

- **Vocational technical schools** average 23% special education students compared to 17% statewide. Over the past five years, the number of vocational schools represented in the set of the 20 schools having the highest percentages of special education students ranged from 13 to 18. Last school year, 14 of the 20 districts with the highest percentage of special education students were vocational schools.
- **The ten urban districts** average 19% special education students which is slightly higher than the statewide figure of 17%.
- **The 50 demographically advantaged districts** have a slightly lower percentage of students in special education (15%) than the state average of 17%. When this group is reduced even further, to the 25 most demographically advantaged districts, the percentage of special education students drops to 14%, three percentage points below the statewide incidence.
- **Charter schools** have, on average, the lowest incidence of special education students at 12%. Over the past five years, the number of charter schools represented in the set of 20 schools having the lowest percentages of special education students ranged from 13 to 18. Last school year, 16 of the 20 districts with the lowest percentage of special education students were charter schools. In 2006-07 and 2007-08, however, 4 of the 20 schools with the highest percentages of special education students were charter schools.

Distribution of students by disability type

Special education students are placed in a specific disability category based on their individual needs. In any discussion of classifying students by disability type, it is important to note that the Massachusetts State Legislature incorporated the following language in state law: “The use of the word disability... shall not be used to provide a basis for labeling or stigmatizing the child or defining the needs of the child and shall in no way limit the services, programs, and integration opportunities provided to such child.”¹⁶ There

Descriptions of District Subgroups

Several subgroups are examined throughout this report; they are defined below.

- **Statewide:** All special education students enrolled in Massachusetts public schools.
- **Urban ten districts:** Students attending school in the Commonwealth’s urban districts: Boston, Brockton, Fall River, Holyoke, Lawrence, Lowell, Lynn, New Bedford, Springfield, and Worcester.¹⁷ These districts serve 20% of students statewide.
- **Demographically advantaged districts:** The 50 school districts (listed in Appendix A) with the lowest percentage of students eligible for free and reduced price lunch. These districts serve 18% of students statewide.
- **Vocational technical schools:** Schools that provide both academic and job and technical training for students in grades 9-12. These schools, which prepare students for both employment and continuing academic and occupational training, educate 9% of high school students in Massachusetts.
- **Charter schools:** Charter schools are independent public schools that operate under five-year charters granted by the Commonwealth’s Board of Elementary and Secondary Education. Charter schools have the freedom to organize around a core mission, curriculum, theme, and/or teaching method and to control their own budget and hire (and fire) teachers and staff. These schools educate 2.4% of students in Massachusetts.

¹⁶ MGL Ch71B sec.1.

¹⁷ In 2007, the University of Massachusetts’ Donahue Institute, working with the Massachusetts Office of Educational Quality and Accountability, issued a report on urban education achievement in Massachusetts, *Gaining Traction*. Our report uses the same 10 urban districts used in the *Gaining Traction* report. *Gaining Traction* is available at: <http://www.donahue.umass.edu/docs/gain-trac-report>.

are 11 disability categories: Autism, Communication Impairment, Developmental Delay, Emotional Impairment, Health Disabilities, Multi-Disability, Intellectual Impairment, Neurological Impairment, Physical Impairment, Sensory Impairment and Specific Learning Disability. See page 9 for definitions of each category.¹⁸

The percentage of students in each disability category statewide is fairly consistent with national figures (see Table 3). Massachusetts has a lower percentage of students with Communications Impairments (14%) than the national average (22%) and a slightly lower percentage of students with Health Disabilities (4%) than the national average (7%). On the other hand, Massachusetts has more students with Developmental Delay (9% compared to 5% nationally) and more students with Autism and/or Neurological Disabilities (6% compared to 3% nationally).¹⁹

Table 3. Disability Category Distribution, 2003-04

Disability Category	US ²⁰	MA
Specific Learning Disability	43%	46%
Communication Impairment	22%	14%
Intellectual Impairment	9%	8%
Emotional Impairment	7%	9%
Health Disabilities	7%	4%
Developmental Delay	5%	9%
Autism and Neurological Impairment*	3%	6%
Multi-Disability	2%	3%
Sensory Impairment	2%	1%
Physical Impairment	1%	1%

*Autism and Neurological impairment categories are combined.

Changes over time

Between the 2002-03 and 2006-07 school years, the percentage of students in six of the disability categories has changed slightly, with increases in placement in the Communication Impairment, Developmental

Delay, Health Disabilities, Autism and Neurological Impairment categories (see Table 4). The most noteworthy change is in the percentage of students placed in the Specific Learning Disability category, which fell from 51% in 2002-03 to 39% in 2006-07.²¹

Table 4. Changes in MA Disability Distribution

Disability Category	2002-03	2006-07	Change
Specific Learning Disability	51%	39%	-12
Communication Impairment	13%	17%	4
Emotional Impairment	8%	8%	–
Developmental Delay	8%	10%	2
Intellectual Impairment	7%	7%	–
Health Disabilities	3%	6%	3
Multi-Disability	3%	3%	–
Autism	3%	5%	2
Neurological Impairment	2%	3%	1
Sensory Impairment	1%	1%	–
Physical Impairment	1%	1%	–

Disability category and persistence

A student's success in school appears to be related to his or her disability category placement. Nationally, students with Autism, Multiple Disabilities, Deafness and Blindness, Intellectual Impairment and Emotional Impairments have the lowest graduation rates—ranging from 42% to 29% (see Table 5 on page 8). The students in these categories also have high dropout rates—ranging from 21% to 65%.

In 2001-02, fewer than half (48%) of students age 14 and older with disabilities in the United States graduated with a standard high school diploma and 41% exited school by dropping out. In Massachusetts, 5.5% of special education students drop out as compared to 3% of general education students. Special education students who drop out represent 24.4% of all dropouts in Massachusetts.

18 See MA 603 CMR 28.02 for detailed definitions of the disability categories. Available online: <http://www.doe.mass.edu/lawsregs/603cmr28.html?section=02#start>.

19 US Department of Education, National Center for Education Statistics (2006). *Digest of education statistics, 2005*. (NCES 2006 030), Chapter 2.

20 Massachusetts Department of Elementary and Secondary Education (2009). School year 2003-04 enrollment data. Accessed online at <http://www.doe.mass.edu/infoservices/reports/enroll/?yr=sped0304>.

21 The percentages for disability category distribution are available in the state's *Students with Disabilities Annual Report 2003-04*, p. 9.

Table 5. U.S. Percentage of Students Age 14 and Older Graduating with a Standard Diploma or Dropping Out, 2000-01²²

Disability	% Graduated	% Dropped Out
Visual Impairment*	66	21
Hearing Impairment*	60	25
Neurological Impairment	58	29
Physical Impairment	57	27
Health Impairment	56	36
Specific Learning Disability	54	39
Communication Impairment	52	40
Autism	42	21
Multi-Disability	42	27
Deaf-Blind*	41	23
Intellectual Impairment	35	34
Emotional Impairment	29	65
All Disabilities	48	41

*The Sensory category is broken out into three categories: Visual Impairment, Hearing Impairment and Deaf-Blind. Data for students with Developmental Delay are not reported because this impairment relates to the learning capacity of children ages 3-9 years old.

Variation by type of district

Different types of districts vary in their student disability category profiles (see Table 6 below). The most notable difference is that vocational technical schools have a substantially higher percentage of students with a Specific Learning Disability (67%) than other types of districts, which have, on average, 37% to 39%

of students in this category. Charter schools have a considerably lower percentage of students classified as Developmental Delay—only 3% compared with other types of districts which have, on average, 10% to 11% of students in this category. The ten urban districts have somewhat higher percentages of students with Intellectual (14%) and Emotional (13%) Impairments. Notable findings for each type of district are described in greater detail below:

- **The ten urban districts**, which educate 20% of all Massachusetts public school students in grades K-12, present a slightly different disability distribution than the state as a whole. These districts have more students classified as having Intellectual (14% compared to 7% statewide) and Emotional (13% compared to 8% statewide) Impairments. They have a lower percentage of students in the Communication (13% compared to 17% statewide) and Health (3% compared to 6% statewide) Impairment categories.
- **The 50 demographically advantaged districts** educate about 18% of all students in Massachusetts in grades K-12. They have a higher percentage of students classified as having a Neurological Impairment (6% compared to 3% statewide) and a lower percentage in the Intellectual Impairment category (3% contrasted with 7% statewide).
- **Vocational technical schools**, which serve students in grades 9-12, educate about 14% of Massachusetts grade 10 students. They tend to have a substan-

Table 6. Disability Distribution by Type of District

	Intellectual	Communication	Emotional	Health	Specific Learning Disability	Multi-Disability	Autism	Neurological	Developmental Delay	Sensory/Physical*
State	7%	17%	8%	6%	39%	3%	5%	3%	10%	2%
Urban 10	14%	13%	13%	3%	37%	3%	3%	1%	10%	2%
Demographically Advantaged	3%	19%	6%	7%	39%	2%	6%	6%	11%	1%
Vocational Technical	8%	7%	4%	9%	67%	1%	1%	3%	0%**	1%
Charter	5%	20%	6%	9%	39%	9%	2%	5%	3%	2%

*Includes Hearing Impaired; Vision Impaired; Deaf and Blind and Physical

** There are no students with Developmental Delay because this impairment relates to the learning capacity of children ages 3-9 years old.

22 *Twenty-fifth Annual Report to Congress* (2003). pp. 69-70. Available at: <http://www.ed.gov/about/reports/annual/osep/2003/25th-vol-1-sec-1.pdf>.

Disability Definitions²³

Autism: A developmental disability significantly affecting verbal and nonverbal communication and social interaction.

Communication Impairment: The capacity to use expressive and/or receptive language is significantly limited, impaired, or delayed and is exhibited by difficulties in one or more of the following areas: speech, such as articulation and/or voice; conveying, understanding, or using spoken, written, or symbolic language.

Developmental Delay: The learning capacity of a young child (3-9 years old) is significantly limited, impaired, or delayed and is exhibited by difficulties in one or more of the following areas: receptive and/or expressive language; cognitive abilities; physical functioning; social, emotional, or adaptive functioning; and/or self-help skills.

Emotional Impairment: Student exhibits one or more of the following characteristics: an inability to learn that cannot be explained by intellectual, sensory, or health factors; an inability to build or maintain satisfactory interpersonal relationships; inappropriate types of behavior or feelings under normal circumstances; a general pervasive mood of unhappiness or depression; or a tendency to develop physical symptoms or fears associated with personal or school problems.

Health Impairment: A chronic or acute health problem such that the physiological capacity to function is significantly limited or impaired and results in one or more of the following: limited strength, vitality or alertness including a heightened alertness to environmental stimuli resulting in limited alertness with respect to the educational environment.

Intellectual Impairment: The permanent capacity for performing cognitive tasks, functions, or problem solving is significantly limited or impaired and is exhibited by more than one of the following: a slower rate of learning, disorganized patterns of learning, difficulty with adaptive behavior, and/or difficulty understanding abstract concepts. Includes students with mental retardation.

Multi-Disability: Students who have more than one disability.

Neurological Impairment: The capacity of the nervous system is limited or impaired with difficulties exhibited in one or more of the following areas: the use of memory, the control and use of cognitive functioning, sensory and motor skills, speech, language, organizational skills, information processing, affect, social skills, or basic life functions. Includes students who have received a traumatic brain injury.

Physical Impairment: The physical capacity to move, coordinate actions, or perform physical activities is significantly limited, impaired, or delayed and is exhibited by difficulties in one or more of the following areas: physical and motor tasks, independent movement, and/or performing basic life functions.

Sensory Impairment: The capacity to hear, with amplification, is limited, impaired, or absent. Or, the capacity to see, after correction, is limited, impaired, or absent. Concomitant hearing and visual impairments, the combination of which causes severe communication and other developmental and educational needs.

Specific Learning Disability: A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.

²³ Modified from MA 603 CMR 28.0. Available online: <http://www.doe.mass.edu/lawsregs/603cmr28.html?section=02#start>.

tially higher percentage of students with a Specific Learning Disability (67%) than the state (39%). They also have a considerably lower percentage of students in the Communication Impairment (7% compared with 17%) category. The percentage of students with Autism is also slightly lower (1% compared with 5% of students statewide).

- **Charter schools** educate about 2.4% of all Massachusetts students in grades K-12. They tend to have a higher percentage of students classified as having Multi-disability (9% compared to 3% statewide), Health Disabilities (9% compared to 6% statewide) and Communication Impairments (20% compared with 17% statewide). Charter schools have a lower percentage of students classified as Developmental Delay (3% compared with 10%) and a slightly lower percentage of students with Autism (2% compared with 5% statewide).

It is also worth noting that there is a relationship between the percentage of low-income students in a district and the percentage of students classified as having particular disabilities. As shown in Table 7, there is a moderately strong, positive correlation ($r=.66, p<.01$) between the percentage of low-income students and the percentage of students classified as having an Intellectual Impairment. In other words, as the percentage of low-income students in a district increases, so does the percentage of students classified as having an Intellectual Impairment. There is a weaker but statistically significant positive correlation ($r=.38, p<.01$) between the percentage of low-income students in a district and the percentage of students classified as having Emotional Impairments.

Conversely, there is a negative correlation between the percentage of low-income students and the percentage of students classified as having Autism ($r=-.32, p<.01$), and the percentage of students with a Neurological Impairment ($r=-.25, p<.01$). In other words, as the percentage of low-income students in a district increases, the percentage of students classified as having Autism or a Neurological Impairment decreases.

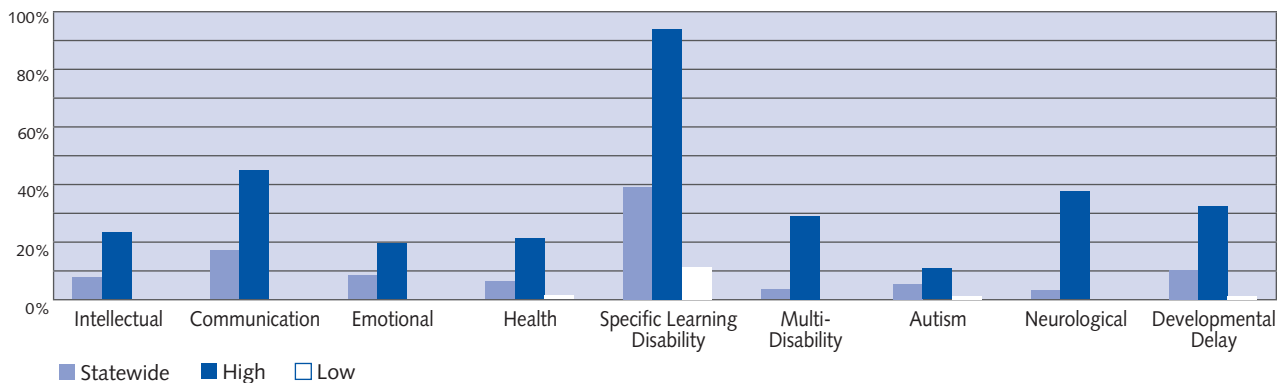
Table 7. Correlations: percentage of low-income students and students with particular disabilities

	Intellectual	Emotional	Autism	Neurological
Low-income Percentage	.66	.38	-.32	-.25

Individual district comparisons

Individual school districts sometimes present very different disability distributions from the statewide distribution. While some of the variation is due to the district having fewer students with particular disabilities, evidence suggests that some of the variation is the result of how students with disabilities are classified. While the state maintains common definitions of each disability category (in MA 603 CMR 28.02 and on page 9 of this report), districts make the determination of which category would best fit the needs of each student. This section of the report illustrates the extent to which placement varies. First, the highest and lowest incidence of each disability category is shown in comparison to the statewide incidence. Then, disability categories in individual districts with demographically similar communities are compared.

Figure 1. High and Low Incidence of Disability Type 2006-07



*Only districts with at least 45 students with special needs are reflected in this graph.

High and low incidence districts

Figure 1 on page 10 shows the highest and lowest district incidence of each disability type along with the statewide incidence. In eight of the nine categories shown,²⁴ the lowest incidence is between 0% and 1%.

- **Neurological Impairment:** While 3% of special education students statewide are classified as having Neurological Impairment, in three districts, that are among the top 50 demographically advantaged in the state, the percentage is over 30%.
- **Specific Learning Disability:** While 39% of all students statewide are classified as having a Specific Learning Disability (SLD), as reported above, students with SLD are overrepresented in vocational technical schools, which have, on average, 67% students with SLD. Of the ten districts with the highest incidence of SLD students, eight are vocational technical schools. The range of incidence of SLD in these top ten districts is 16% to 100%. Conversely, ten districts have SLD populations of 16% or less.
- **Communication Impairment:** While the state incidence of students with Communication Impairment is 17%, 18 districts have 35% or more students in that category.
- **Intellectual Impairment:** While the state incidence of students with Intellectual Impairment is 7%, eight districts and three vocational schools have 14% or more students in that category.

Districts in demographically similar communities

Analysis for the study included a comparison of the disability distribution profiles of districts in communities that are demographically similar in terms

of income, racial composition, and English language facility. Since the comparison was of districts in demographically similar communities, one would expect them to have similar disability distributions. This is not always the case. The following examples highlight the extent to which disability placement varies and suggests that at least some of the variation may be the result of how students with disabilities are classified.

Demographically advantaged districts in the North Shore, South Shore and Central Massachusetts showed wide disparities in the percentages of students categorized in particular disability categories. For example, Table 8 shows the distribution of students by disability type in three districts in advantaged North Shore communities. For these similar districts, the percentage of students with Neurological Impairments ranges from 1% to 37% and the percentage of students with Specific Learning Disabilities varies from 11% to 64%. All districts are below the statewide incidence of students with Communication Impairment, but one district has 1% of students identified with Communication Impairment, while the other two have 11% and 12% in this category.

Table 9 on page 12 shows the distribution of three of the ten urban districts. In these urban systems, there is a relatively wide variation in the percentage of students with Intellectual Impairments with percentages of 5%, 10% and 18%. One district has a very low incidence of Specific Learning Disability, at 13%, while the other two districts have 25% and 32% of special education students in this category.

As shown in Tables 8 and 9 (on page 12), there is wide variation from district to district in the distribu-

Table 8. Distribution of Students by Disability Type, North Shore Advantaged Districts

	Special Ed. Percentage	Communication Impairment	Emotional Impairment	Health Impairment	Specific Learning Disability	Autism	Neurological Impairment	Developmental Delay	Other*
City A	17%	11%	7%	17%	11%	6%	37%	2%	9%
City B	15%	12%	6%	12%	54%	6%	1%	1%	7%
City C	13%	1%	13%	9%	64%	6%	3%	0%	6%
Statewide	17%	17%	8%	6%	39%	5%	3%	10%	12%

*Other includes Sensory, Physical, Intellectual, and Multi-disability.

24 Incidences of disabilities in some of the 11 categories are too small to report.

Table 9. Distribution of Students by Disability Type, Urban 10 Districts

	Special Ed. Percentage	Intellectual Impairment	Communication Impairment	Emotional Impairment	Health Impairment	Specific Learning Disability	Multi-Disability	Autism	Developmental Delay	Other*
City A	14%	10%	10%	10%	10%	32%	2%	4%	18%	4%
City B	15%	5%	22%	19%	9%	25%	1%	6%	8%	4%
City C	18%	18%	25%	6%	3%	13%	9%	3%	20%	3%
Statewide	17%	7%	17%	8%	6%	39%	3%	5%	10%	6%

*Other includes Sensory, Physical, and Neurological Impairments

tion of students in disability categories. These districts are quite similar in terms of salient demographic and income characteristics yet they present widely varying disability category profiles. These examples highlight the extent to which disability placement varies and suggest that at least some of the variation may be the result of how students with disabilities are classified. One reason for the variation may be that the definitions of the disability categories are open to widely varying interpretations. As a result, in one district, a student may be placed into the Specific Learning Disability category while that same student might be placed in a very different category in a neighboring district.

The use of inclusion

Aggregate state data shows that the percentage of students in an inclusion environment has increased from 12.7% in 2000-01 to 45.7% in 2004-05 while the percentage of students in partial inclusion has dropped from 61% to 31.4% over the same period.²⁵ However, there are very little public data available on the types of environments into which students with disabilities are placed, so any analysis is accordingly limited.²⁶

A majority of districts have moved toward inclusion for special education students since the 2004-05 school year (see Table 10). Eighty-three percent of respondents said that all or most of the schools in

Table 10. Extent to which schools in the district have moved toward inclusion

	Number	Percent
All schools have	89	67.9%
Most schools have	20	15.3%
Some schools have	17	13.0%
Few schools have	1	.8%
None of our schools have	1	.8%
Prefer not to answer	3	2.3%
TOTAL	131	100.0%

their district have moved toward inclusion over the past five school years. Only 14% said some or few schools have.

In most districts, the use of pullouts to provide special education services has either decreased (45%) or stayed the same (36%). Very few districts (15%) have increased the use of pullouts and a handful of districts (4%) were unsure how the use of pullouts has changed in their district over the past five years.

Most districts (82%) reported that, compared to five years ago, there is more coordination and cooperation among general education, special education and specialist teachers in an effort to improve the achievement of special education students. (See Table 11 on page 13.) Four out of ten report that all or most of the schools in their district employ co-teaching for special education students. Only 10% of respondents said that none of their schools do.

25 Placement data are available at: http://www.doe.mass.edu/sped/apr/0304/appx_g.html.

26 One source of information is a 2004 report, *A Study of MCAS Achievement and Promising Practices in Urban Special Education*, by the Donahue Institute at the University of Massachusetts. This report chronicled differences between the MCAS performance of students in different placements and disability categories across urban and non-urban settings. The report is available at: <http://www.donahue.umass.edu/publications/index?year=2004>.

Thirty-seven percent of respondents indicated that all or most of the schools in their district organize common planning time to include both special and general education teachers (see Table 12). Half of the respondents reported that only some or few schools in the district organize common planning time.

In a few districts (12%), general education teachers, special education teachers and specialists participate together in professional development activities at least once a month (see Table 13). About one-quarter report that this occurs five to six times per year and about half report that it occurs two to four times per year.

Table 11. Extent to which coordination and cooperation among general education teachers, special education teachers and specialists has changed compared to five years ago

	Number	Percent
Much more	33	25.2%
Somewhat more	74	56.5%
About the same	17	13.0%
Somewhat less	4	3.1%
Don't know	3	2.3%
TOTAL	131	100.0%

Table 12. Common planning time includes both special education and general education teachers

	Number	Percent
All schools do	25	19.1%
Most schools do	24	18.3%
Some schools do	36	27.5%
Few schools do	29	22.1%
None of our schools do	10	7.6%
Don't know	5	3.8%
Prefer not to answer	2	1.5%
TOTAL	131	100.0%

Table 13. Frequency with which general education teachers, special education teachers and specialists participate together in professional development

	Number	Percent
Once a week	9	6.9%
Every other week	5	3.8%
Once a month	15	11.5%
Five to six times a year	30	22.9%
Two to four times a year	60	45.8%
Once a year	6	4.6%
Never	1	.8%
Don't know	4	3.1%
Prefer not to answer	1	.8%
TOTAL	131	100.0%

Special education expenditures

Special education expenditures comprise a substantial percentage of school budgets in Massachusetts. All schools are required by law to provide an educational program best suited to each student's specific needs. For example, if a child has severe behavioral issues, the school must design a program and environment that maximizes the student's progress. Even in situations where this does not happen, administrators must find ways to pay for services required in all special education students' Individual Education Programs.²⁷ Special education costs as a percentage of overall budgets have increased from 17.1% in 2002-03 to 19.4% in 2006-07.²⁸ In the case of many districts, having one or two students with severe special needs move into the town can place financial strain on the school budget.

Special education students cost more to educate due to the additional supports they require, in terms of resources and additional staff. Table 14 on page 14 shows that while special education spending is consistently higher than the percentage of special education students statewide, the ratio has been relatively consistent since 2002-03.

27 Individualized Education Program (IEP) shall mean a written statement, developed and approved in accordance with federal special education law in a form established by the Department that identifies a student's special education needs and describes the services a school district shall provide to meet those needs. Massachusetts 603 CMR 28.02, sec. 11.

28 Special education cost information is available at http://finance1.doe.mass.edu/SchFin/sped/sped_exp_budget.aspx.

It is important to note that Table 14 shows aggregate statewide numbers; it does not provide any information about the challenges individual districts face in providing quality services to special education students. One challenge associated with the Commonwealth’s delivery of special education services is that local districts are responsible for shouldering most of the costs. According to the Massachusetts Association of School Superintendents’ 2001 case study of Massachusetts:

*The financial challenges facing Massachusetts districts as a result of rising special education costs are exacerbated by a foundation funding formula that seriously under-represents the costs of serving special education students. Not only does the formula set unrealistically low percentages for students in special education, but it allocates less than half of what is required to pay for services for these students.*²⁹

There is district-specific state relief available through the “Circuit Breaker” program (ST 2000 c. 159, sec. 171) for “districts incurring exceptionally high costs of educating students with disabilities,” but reimbursement is made “subject to appropriation of sufficient funds,” which can significantly limit the amount of assistance.³⁰

The federal government contributes some funding for special education students. Since the No Child Left Behind Act has made increasing the educational achievement of special education students a priority, the federal government has an interest in providing support for these students. A 2002 federal report made recommendations about a new federal funding role for some special education students:

*Since high-need special education students are not evenly distributed throughout the United States, the Commission recommends that the federal government assist states and localities in funding the cost of the most expensive students. ...Funding for identifiable high-need students would essentially ensure that students with high-need disabilities who require unusually expensive education services receive such services without penalizing students with less severe disabilities as well as their classmates without disabilities.*³¹

Another challenge for districts is that the percentage of students requiring special education services has consistently increased over the past five years. There are several hypotheses about why this is happening, but the day-to-day consequence of this trend is that over time, more children in Massachusetts classrooms

Table 14. Special Education Expenditures as a Percentage of Overall District Spending

	Percentage of Special Education Students Statewide	Percentage of School Budget Spent on Special Education	Ratio of Spending Percentage to Student Percentage
2002-03	15.2%	17.7%	1.16
2003-04	15.6%	18.6%	1.19
2004-05	15.9%	18.9%	1.19
2005-06	16.4%	19.1%	1.16
2006-07	16.7%	19.4%	1.16

29 Massachusetts Association of School Superintendents (March 2001). *The impact of special education reform: A case study*. p. iii. Available at: <http://www.massupt.org/policy/fileDisplay.cfm?file=327>. For an overview of the impact of special education costs on the district level, see *Impact*, pp. 12-17.

30 Massachusetts Department of Education (2007). *Massachusetts Department of Education Students with Disabilities Annual Report: 2006-2007*, pp. 9-10. Available at <http://www.doe.mass.edu/research/reports/1107sped.pdf>.

31 President’s Commission on Excellence in Special Education (2002). *A New Era: Revitalizing Special Education for Children and Their Families*. Washington. U.S. Department of Education, p 32.

will require special services which will drive overall school costs up.³²

In 2006-07, districts spent, on average, 19.4% of their budgets on special education, but the percentage varied among districts.³³

Of the 25 districts with the highest percentages of special education spending (ranging from 25.1% to 35.3%), 14 systems have fewer than 1,100 total students. Higher special education costs relative to overall spending may have serious consequences for smaller districts that do not have the benefit of scale or capacity to absorb these costs.

Notably, of the 25 districts with the lowest percentages of special education spending (ranging from 3.1% to 7.6%), 23 are vocational schools. While vocational schools serve only high school students and are organized and operated differently from regular districts, it is interesting to note that these schools—which serve disproportionately more special education students than the statewide average—spend less of their overall budgets on special education.

Performance on MCAS

Massachusetts special education students participate in the state assessment program, MCAS. The overwhelming majority of students with special needs take the same test as general education students, with any accommodations, as needed. Some special education students—a maximum of 2% in a district—take the alternative assessment, which is portfolio-based.³⁴

Key findings related to special education students' performance on MCAS:

- **Modest overall gains.** Overall progress on MCAS for special education students consists of modest gains

New Funding through ARRA

The American Recovery and Reinvestment Act of 2009 (ARRA), also known as the stimulus package, provides approximately \$1,000 per special education student. The guidelines for Title I and special education funding are being developed. The money will be distributed by ESE to districts based on student headcount. The district has discretion over how to spend the money. For example, a district with a special needs school might choose to disproportionately fund that school as opposed to spreading the stimulus dollars around to schools on a per-capita basis.

between 2004 and 2008, gains which generally mirror statewide numbers. (See Appendix B.)

- **Similar rate of improvement regardless of district type.** While there are variations in the percentage of students scoring in the Advanced and Proficient categories among different types of districts, the rate of improvement of special education students is similar when looking at students statewide, in urban and demographically advantaged districts. (See Appendix B.)
- **Demographically advantaged districts have scores above the state average.** Demographically advantaged districts generally present the same improvement profile as other groups although they have a higher percentage of students in the combined Advanced and Proficient category—which is currently 10 to 24 percentage points above the state, based on grade and subject. In 2008, this group had 59% of special education students scoring Advanced or Proficient in Grade 10 ELA compared to the state figure of 35%. In Grade 10 Math, the gap was 22 percentage points, with 55% of special education students in demographically advantaged

32 See *Impact of Special Education Reform*. In Massachusetts, this study concludes, “the increase in special education cost is not due to district policy and practice and will not be solved by legislating changes in these practices. Instead it is due to such medical, economic, and social factors as: advances in medical knowledge and technology; deinstitutionalization of special needs children; the consequences of a higher percentage of children living in poverty; and increases in families experiencing social and economic stress.”

33 Spending data are available at: <http://finance1.doe.mass.edu/seducation/>. Information about district size and other characteristics is available at: http://profiles.doe.mass.edu/state_report/.

34 From the Massachusetts Department of Elementary and Secondary Education: “MCAS is designed to measure a student’s knowledge of key concepts and skills outlined in the Massachusetts Curriculum Frameworks. A small number of students with the most significant disabilities who are unable to take the standard MCAS tests even with accommodations participate in the MCAS Alternate Assessment (MCAS-Alt). MCAS-Alt consists of a portfolio of specific materials collected annually by the teacher and student. Evidence for the portfolio may include work samples, instructional data, videotapes, and other supporting information.” Available at <http://www.doe.mass.edu/mcas/alt/>.

districts scoring Advanced or Proficient compared to 33% statewide.

- **Urban districts have lower base scores.** Student performance in the ten urban districts generally reflected the state's patterns of increased or decreased performances, but these districts started at a much

lower point in 2004, the base year for this analysis. The best performance is in grade 10 math and ELA where the percentage of students scoring Advanced or Proficient reaches 13% to 16% respectively. For other subjects and grades, the percentage of student scoring Advanced or Proficient is below 10%. (See Appendix B.)

Figure 2. Grade 10 Math SPED Advanced + Proficient

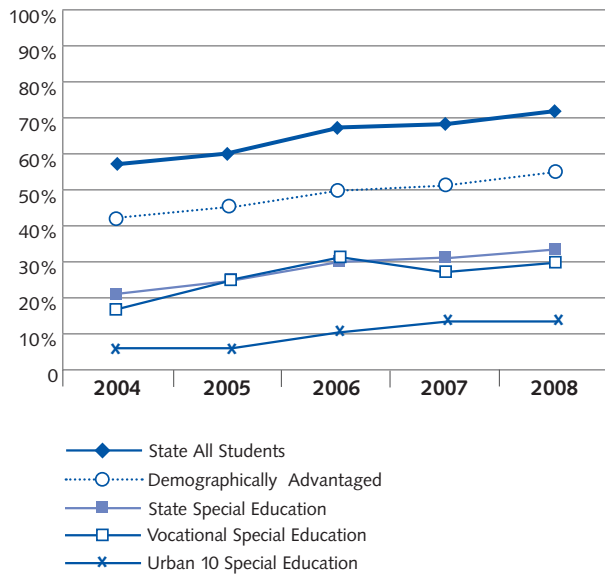
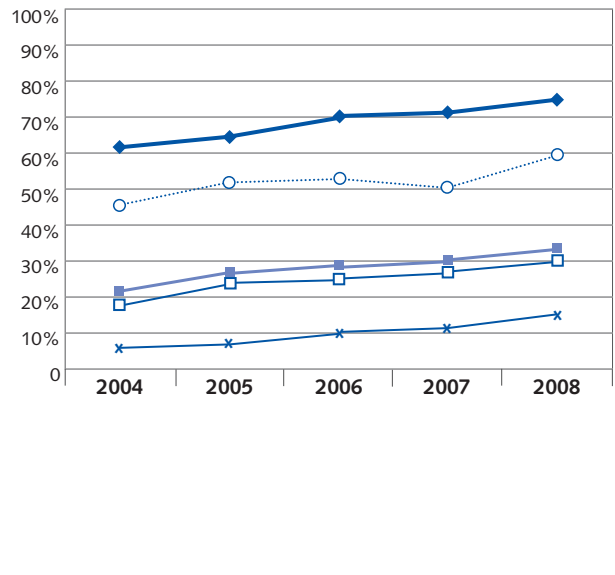


Figure 3. Grade 10 ELA SPED Advanced + Proficient



PART 2: DISTRICTS AND SCHOOLS MAKING PROGRESS WITH STUDENTS WITH DISABILITIES

This section of the report describes the provision of special education services in the four districts and three schools selected for site visits and interviews—all of which have shown notable progress in moving students with special needs to higher levels of achievement. The section begins with a summary of the policies and practices that were common across all of the schools and districts studied. Following the summary of common themes are school and district profiles that highlight and provide details about some of their innovative and unique practices and policies.

Common themes across the cases

Schools and districts profiled in this study were selected based on their special education students' progress on MCAS over time (see Table 15), with growth in the achievement of students with special needs that was in the top 5% to 10% of all districts and schools in Massachusetts. While there was a great diversity of approach in these high-growth schools and districts, there were consistent themes across the schools and districts studied. The traditional model of educating students with special needs—placing many learners in separate settings—has been replaced by other, more inclusive policies aimed at significantly improving the outcomes of students with special needs.

If all students with special needs are to achieve at the Proficient level, there is much work left to do and much opportunity for change in practice. In a time of accountability, higher expectations, and a focus on subgroups' performance on standardized assessments, the high-growth schools in this study have developed several policies and practices to best meet the needs of students with special needs. The following seven themes emerged from interviews and site visits in these schools and districts.

1. Inclusion was the preferred educational environment for special education students.

All of the districts and schools studied have moved toward inclusion for students with special needs. Inclusion, by its very nature, breaks down the walls that historically have defined and divided student services in many districts and schools. Traditionally, while students were placed into categories—Title 1; special education; academic or college preparatory—the successful schools and districts included in this report drastically changed the education services delivery system for their special education students. All of the districts and schools moved (or are moving) from a traditional model where services were compartmentalized based on general student characteristics to a new paradigm where educational services are delivered based on individual student needs.

Table 15. Change in Special Education Advanced + Proficient 2004-2008*

	Grade 4 ELA	Grade 4 Math	Grade 6 Math	Grade 7 ELA	Grade 8 Math	Grade 10 ELA	Grade 10 Math
Study Districts	13%	33%	26%	15%	15%	29%	33%
Statewide	-3%	4%	8%	0%	5%	13%	12%

	Grade 4 ELA	Grade 4 Math	Grade 6 Math	Grade 7 ELA	Grade 8 Math
East Somerville Community School	45%	65%	24%	18%	21%
Statewide	-3%	4%	8%	0%	5%

*Data is from 2004-08 MCAS except in Grades 4, 6, 7 and 8 for East Somerville Community School in which MCAS was first administered in 2005.

It is important to note that educators interviewed for this study realized that inclusion is not a panacea. Many of the professionals interviewed spoke of “appropriate” or “reasonable” inclusion that provides additional protocols, supports, and interventions based on specific needs of individual learners. These professionals understand that inclusion is a tool, not a remedy. In these schools and districts, each student is evaluated carefully to determine the right blend of services necessary to maximize learning. The schools and districts studied here took different paths toward inclusion and making the curriculum more accessible to special education students, but they did embrace the following similarities.

“FOR INCLUSION TO WORK YOU NEED GENERAL EDUCATION TEACHERS WHO ARE WILLING TO ALLOW ACCOMMODATIONS AND BE OPEN MINDED AND SUPPORTIVE OF THE CHILD FROM WHATEVER POINT THEY’RE AT IN THEIR EDUCATION.”

Moved away from resource rooms and sharply reduced the incidence of pullouts. When students in the schools and districts studied for this report needed additional support, rather than being pulled out of their regular classrooms, they could participate in enhanced learning environments within a general education classroom, such as:

- Literacy Labs at Arlington High that provide three additional instructional classes focused on literacy skills each week.
- Extra help sessions, including after-school programs with late bus transportation like those at Montachusett and Assabet Valley RTHS, as well as Saturday and summer sessions. Some schools send a letter home to parents informing them that their child would benefit from the extra help. Attendance is taken at the extra help sessions to keep track of which students are taking advantage of the sessions. In some schools, there are consequences for students who do not attend.
- Paraprofessionals provide support to students in general education classrooms.

Developed new models to provide effective instruction in the general classroom. The school and district staff members in the sites studied for this report have made significant changes to their instructional practices in order to support inclusion.

- In these schools, teaching is a group effort. A grade 4 class at East Somerville Community School features the teacher, an inclusion specialist, and the speech therapist all working with students within the general classroom on an individual basis.
- Co-teaching between special education and general education teachers was a key strategy utilized at Assabet Valley RTHS and schools in Braintree and Shrewsbury. In the co-teaching model, teachers plan lessons together for all students in the classroom and have joint ownership for teaching the lesson to all students.
- In math classes in Braintree middle schools, students who are struggling receive 50% more math instruction in small group settings.
- All districts and schools are moving away from dividing students and teachers into groups based on categories or certifications. Professional development activities, common planning time, and informal information exchanges in the schools and districts in this study routinely involve general education teachers, special education teachers and other specialists as they work to provide effective instruction.

Provided support and professional development for teachers moving to inclusion. While districts and schools worked toward inclusion, they realized that training and faculty support needed to precede the move to include more students in the general classroom. Leaders were clear about the benefits of inclusion and worked to ensure that teachers were supported in learning how to work in an inclusion setting. Staff concerns about changing the special education design were ameliorated by effective preparatory work and professional development activities.

2. Standards-based reform was a catalyst for change.

Many of the educators interviewed for this research candidly said that MCAS and the Adequate Yearly Progress (AYP) provisions of No Child Left Behind were key elements in triggering the reengineering of

special education in their districts. Annual assessments that disaggregate student performance have brought needed attention to the academic progress of all students. Every one of the districts included in this study takes pride in the quality of the education delivered to all of their students, and all responded quickly and productively when statewide assessments revealed that some students, including those with special needs, were not achieving at high levels.

3. Changing the curriculum was essential to improving the achievement of students with special needs.

Focusing on improving and enhancing curriculum was a hallmark of schools exhibiting strong achievement gains for special education students. As indicated below, adapting the curriculum goes beyond choosing new study guides or rearranging the academic schedule. The schools studied for this report have developed curriculum for students with special needs that has the following characteristics:

- **More rigorous.** Several districts had moved or are moving to reduce the number of placement levels for a student, which essentially ratchets up expectations for all. For example, Braintree shifted from four levels of math courses for students to two levels, called Advanced and Proficient, with extra help being available to students who take the Proficient level courses. One veteran teacher said that setting “Proficient” as the standard for the lower group would have been “outrageous” five years earlier when some people felt that not all students were capable of mastering the material. In all of the schools studied, all students were expected to master the range of material in the curriculum and separate expectations for students with learning differences did not exist. However, previously, in some cases, students with special needs were excluded from some topics, such as geometry in grade 10. While students with special needs receive extra support and assistance, they are expected to achieve proficiency. In these schools, special needs students participate in the full curriculum, although instruction is tailored to their individual needs.
- **Tightly aligned and mapped to curriculum frameworks, standards, and strands.** Some districts developed their own curriculum from the ground up while others took existing products and transformed them

Limitations of MCAS

Many educators voiced concerns about the limits of annual MCAS scores as the measure of progress for students with special needs. Today, with AYP spotlighting the aggregate scores of groups of students from year to year, there is no accounting for changes in the composition of each grade cohort from one year to the next. Last year’s fourth graders may have had one or two special education students who performed very well and who have since left the school. That makes it very hard to generate AYP-acceptable improvement since this year’s fifth grade class will not have the benefit of those high scores to bring up the average. Developing value-added assessments that measure gains on a student level would produce more accurate and reliable comparisons over time as well as more helpful information about the student’s progress.

into better tools for teaching students the material included in the state’s curriculum frameworks. This curriculum enhancement activity engaged teachers in team building through professional development as they optimized the connection between their curriculum and the state frameworks.

- **More understandable and accessible to faculty and staff.** Involving teachers in the curriculum enhancement activity resulted in a curriculum that was more understandable and accessible to them. In addition, administrators, teachers, and specialists in many of the districts studied routinely share their knowledge of the curriculum, swapping lesson plans and sharing approaches to teaching. One district (Plymouth) has placed the entire K-12 curriculum and corresponding lesson plans, which have been mapped to the standards, on compact discs for use by all teachers.
- **More accessible to students with learning differences, including those with special needs.** Districts and schools also developed specific learning tools including reference sheets and organizers to help guide students. Accommodations were used not just at test time but throughout the year to help students connect to the curriculum.
- **More focused on teaching all students effective strategies for responding to open-response test questions.** One common thread in the study was the empha-

Definitions of Key Terms

Free appropriate public education is interpreted by the United States Supreme Court as the provision of publicly-funded individualized instruction with sufficient support services to permit the student to benefit educationally from the instruction. This education must be provided in the least restrictive environment.

Source: *Hendrick Hudson Bd. of Educ. v. Rowley*, 458 U.S. 176, 188-89 (1982); see also *Cedar Rapids Community Sch. Dist. v. Garret F.*, 526 U.S. 66 (1999); *Burlington v. Department of Educ.*, 736 F.2d 773 (1st Cir. 1984).

Inclusion is a term that expresses the school or district’s commitment to educate each child with special needs, to the maximum extent appropriate, in the school and classroom he/she would otherwise attend. It involves bringing the support services to the child rather than moving the child to the services. The rationale for inclusion is that the child will benefit from being in a regular education classroom where there are higher expectations for all students; a wide circle of support, including social support from classmates without disabilities; and the ability of students and teachers to adapt to different teaching and learning styles.

Other points supporting inclusion models include benefits that accrue to general education students in an inclusion setting—having extra teachers or aides help them develop their skills as well as a better understanding of students with disabilities and an awareness that all students share many similarities.

Source: ERIC digest, EDO-PS-01-13: <http://ceep.crc.uiuc.edu/eecearchive/digests/2001/hines01.pdf>.

Individuals with Disabilities Education Act (IDEA) as amended in 2004, requires that children with disabilities be educated in the “least restrictive environment appropriate” to meet their “unique needs.” The IDEA stipulates that the “least restrictive environment” analysis will begin with placement in the regular education classroom. The law intends that the degree of “inclusion” the students receive be driven by the student’s needs as determined by the IEP team, not by the district’s convenience or the parents’ wishes.

There are three basic categories of special education placement.

- **Full Inclusion:** Students spend at least 80% of the time in a general education classroom.
- **Partial Inclusion:** Students spend 40% to 79% of the time in a general education classroom.
- **Substantially Separate:** Students spend less than 40% of the time in a general education classroom.

Pullout is a term that refers to students being removed or “pulled out” of regular classrooms for special instruction. Special education, ELL and gifted and talented students may be pulled out of the regular classroom. Many students with disabilities require services outside the regular classroom, but some, especially those with mild learning disabilities, can be better served in the regular education classroom, especially with one-on-one tutoring to supplement the daily classroom activities.

Source: http://www.ncrel.org/policy/pubs/html/booklet/book_9.html

Differentiated Instruction is the process of recognizing the students’ various background knowledge, readiness, language, preferences in learning, interests, and to react responsively when planning for instruction. Differentiated instruction is an approach to teaching and learning for students of differing abilities in the same class. The intent of differentiating instruction is to maximize each student’s growth and individual success by meeting each student where he or she is, and assisting in the learning process.

Source: <http://www.efdlrs.com/~crown/di/act-1890.html>.

sis placed on improving student performance on open response and long composition test questions. District and school analyses of MCAS results showed that many students were unable to develop coherent responses. Schools developed new tools to help students perform better on these items, including a document called the open response organizer which lays out the steps and thinking processes involved in answering open response questions. The document provides students with guidelines for how to approach and develop responses to open-response test items.

4. Ongoing data analysis informed changes in instruction.

MCAS and the Adequate Yearly Progress (AYP) provisions of the No Child Left Behind Act provide a wealth of information about the status of learning in Massachusetts, particularly regarding subgroups, such as students with special needs. In these successful districts and schools, analyzing and understanding data at the student level is an integral component of effective instruction.

All districts and schools highlighted here, which have increased the number of special education students achieving in the Advanced or Proficient categories on MCAS, use timely data to inform instruction in the classroom and to identify areas where special education students would benefit from additional support. Some districts utilize dedicated software and hardware solutions to develop items, quizzes and tests in order to assess students' progress on the standards outlined in the curriculum frameworks. Two technological products are used by schools in this study. The first is EduSoft, a web-based student assessment platform that helps schools track student performance on classroom tests and district benchmark assessments quickly and easily. The other is RISO's Assess Express, which is a hardware and software solution that provides teachers with real-time analysis of student responses on a quiz or test. RISO produces test statistics, item analysis and grade reports. This gives teachers a basis for offering students additional experiences in areas in which they performed less well so instruction can be modified to meet the student's needs. Other districts rely on more conventional approaches that involve mapping quiz and test items to the frameworks to identify gaps in student learn-

ing. Both strategies are useful in determining how best to educate each child.

In order to improve teaching and learning for all, educators must develop a solid understanding of the strengths and weaknesses at the school, classroom, and student level. The schools and districts included in this study use MCAS items and similar questions from other item banks to do this. Since individual test items can be linked back to a particular learning strand, teachers are able to use students' performance on the items to assess the class and individual students' progress by learning strand as well as identify individual test items on which students did not perform well. This type of feedback on student performance allows the teacher to identify areas where the entire class can benefit from additional instruction as well as target gaps in individual student learning. Teachers in all of the selected high-growth districts use feedback from assessments to adapt their teaching to meet the learner's needs.

**"SYSTEM UNIFICATION IS NOT EASY.
WITHOUT A COMMON GOAL, THERE IS
NO INCENTIVE TO CHANGE."**

—East Somerville Community School educators

Some schools and districts included in this study began to increase their data analysis capacity by utilizing the MCAS item analyses provided by the state. Others develop their own item analyses using results from previous MCAS administrations.

5. School culture matters.

Personnel in every district in the study reiterated the critical role of culture in successful schools.

- The most common element was taking joint ownership of student success. Poor performance was not seen as the math teachers' problem, ELA teachers' problem, special education teachers' problem or MCAS tutors' problem, but viewed as a challenge to be addressed and overcome by every adult in the building. In Shrewsbury the words "all kids are my kids" and in Braintree the mantra "we all own all of the kids" summarized the beliefs of teachers and leaders.

“HERE WE EXPECT ALL STUDENTS TO PASS AND LEARN. IT’S NOT JUST A SLOGAN.”

– Assabet Valley RTHS teachers

- Even in schools with schedules that restricted common planning time, teachers found informal ways to meet often and discuss students and curriculum. Collaboration and cooperation were the watchwords of educators in the study schools and districts.
- District leaders and staff took pride in the fact that their schools were incubators of innovation, that there was receptiveness to new ideas, and activities to improve teaching and learning.
- There are high expectations of everyone, including teachers, staff, administrators, and students.

Once they have developed a positive culture, the schools studied here have worked to sustain that culture over time. Administrators understand that it is important that new employees share the values of the district. Districts and schools have developed various approaches to inculcating productive values, including ongoing mentoring, meetings with the superintendent and other leaders, and school-wide meetings and celebrations. Each of these connects the new teacher to the traditions and values of the school and district.

6. Educators work in Professional Learning Communities (PLC).

PLC is a term that is often used when discussing improving school culture and climate, but in these study schools and districts, it is the foundation for much of what happens in the school or classroom. Developing a strong learning community begins with valuing teachers and staff and expecting them to value each other. Educators in these schools and districts routinely look to colleagues for assistance in dealing with problems ranging from teaching a specific strand in the curriculum to dealing with disruptive students to understanding deep data analyses.

In districts that do well in educating students with special needs, there is a strong culture of collaboration between and among special education professionals, general education teachers and specialists as they work towards continuous improvement. The old

stereotype of the teacher’s door being closed during the school day has been replaced by a new literal and metaphorical open door policy for colleagues.

“STUDENTS FEEL VALUED. TEACHERS FEEL VALUED.”

– Assabet Valley RTHS teachers

In these PLCs, teachers may meet at lunch to discuss student and curricular issues and they use technology and email—any time of the day or week—to keep in touch, solve problems, and grow professionally.

7. Strong district support is critical.

In the study districts, central offices prioritized providing the appropriate personnel and resources to the special education program. Special education administrators and teachers alike were confident that if they made a good case for additional help from the district, they would receive it. This involved supports including: providing one-on-one instruction for a student, providing extra time for instruction, or acquiring appropriate assistive technology. These schools and districts provide multiple opportunities for tutoring by teachers or skilled paraprofessionals. There clearly are limits to what any district can provide, but the study districts were anxious to furnish whatever was needed to help a student succeed.

Profiles of selected schools and districts

Seven sites were selected for field research based on their special education students’ progress on MCAS over time (from 2004 to 2008). Field research was conducted at sites that exhibited exemplary progress at the elementary (Shrewsbury and East Somerville Community School), middle (Braintree and East Somerville Community School) and high school levels (Arlington and Plymouth districts and Assabet Valley Regional Technical High School and Montachusett Regional Vocational Technical School).

The policies and practices that were common across all of the schools and districts studied are summarized in the previous section, Common themes across cases, that begins on page 17. This section highlights and

provides more detail about some of the innovative and unique practices and policies that may contribute to the successful improvement of outcomes for students with special needs. Full profiles of each district and school included in this report can be found at www.renniecenter.org.

ELEMENTARY SCHOOL PROFILE:
Shrewsbury Public Schools

Shrewsbury is an upper-middle class community located in central Massachusetts. The public schools are one of the town’s more attractive features for families with children. Providing a top-quality education to students with special needs is a district priority.

Shrewsbury has one K-1 school and four elementary schools serving 196 Pre-K students and 2210 K-4 students. Since 2004, the percentage of grade 4 special education students scoring in the combined Advanced-Proficient category has increased by 33 percentage points in math and 13 percentage points in ELA. On the 2008 grade 4 math MCAS, over half (52%) of Shrewsbury’s special education students scored in the combined Advanced-Proficient category compared with only 18% of special education students statewide. On the 2008 grade 4 ELA test, Shrewsbury’s special education students outperformed special education students statewide with 40% of them scoring in the combined Advanced-

Proficient category compared with only 14% of special education students statewide.

Culture of collaboration: “All kids are my kids.”

District leadership spoke of the Shrewsbury Public Schools as “fertile ground” for innovation and “a place where ideas work.” Staff noted that the district encouraged new ideas and collaborations as evidenced by educators’ readiness to bring suggestions to school and district leadership.

There is a strong culture of collaboration among teachers—with special education teachers, specialists, and general teachers routinely working together to improve instruction. This collaboration facilitates shared ownership and responsibility for student learning, and an “all kids are my kids” culture. Collegiality and professionalism are the hallmarks of instructional practice in Shrewsbury and continuous improvement is the goal. Teachers expect their colleagues to rise to the occasion in terms of providing effective instruction to all of their students. Teachers and staff also hold high expectations for their students and believe that if a student is struggling, the teacher has the responsibility to determine how to provide more effective instruction.

For special education students, inclusion is a practical goal, but it is not seen as a blind mandate. Students who are not thriving in the general classroom are

Table 16. Student Demographic Information for Shrewsbury

	FLNE	LEP	Low- Income	SPED	African American	Asian	Hispanic	White
Shrewsbury	15.1%	2.8%	9.2%	16.6%	1.8%	11.8%	4.2%	80.5%
State	15.4%	5.9%	30.7%	17.1%	8.2%	5.1%	14.3%	69.9%

Table 17. Grade 4 Percentage of Students Scoring Advanced + Proficient

	ELA						MATH					
	2004	2005	2006	2007	2008	2004–08 Change	2004	2005	2006	2007	2008	2004–08 Change
Shrewsbury–SPED Students	27%	25%	26%	41%	40%	13	19%	13%	19%	23%	52%	33
State–SPED Students	21%	17%	16%	19%	14%	-7	15%	14%	15%	17%	18%	3
State–All Students	56%	57%	50%	56%	49%	-7	42%	40%	40%	48%	49%	7

provided with appropriate support services in different settings, including one-on-one instruction, with the goal to place them in the least restrictive setting that is effective. All students have access to the general curriculum and teachers are granted flexibility in instruction.

Targeted supports for elementary students.

For most special education students in grades K-5, additional learning opportunities are provided by learning skills programs. These programs provide direct special education services for students who require varying levels of skill development, primarily in English language arts and math. Instruction in the general classroom is supplemented by remediation, pre-teaching, and re-teaching of grade-level material based on individual needs.

Students who require more support receive services from the intensive learning center program where they are included in the grade-level general education class, but with a higher level of modification to the academic work than in the learning skills program. This program is available in three elementary schools and places a greater emphasis on the acquisition of basic reading, language and math skills. Students with Autism Spectrum Disorders receive services at the Elementary Learning Centers located in two schools.

Across elementary schools, the “learning buddies” program pairs general education students with special needs students. This program gives the student with special needs routine exposure to the general life of the school and a connection with at least one general education student.

Effective staffing and use of resources.

In order to effectively serve its students with special needs, Shrewsbury utilizes its resources in two interesting ways.

- **Early intervention programs.** The district provides several early intervention pre-school programs to identify student learning differences early and develop teaching approaches that meet the student’s needs without moving to a special education referral whenever possible. The district has priori-

tized pre-school programs as a means for supporting and building students’ skills so that, eventually, they might no longer have a need for special services. The district provides a range of pre-school programs for students between the ages of three to five with special needs, including:

- *Integrated Classroom* that enrolls students with learning differences with their typically developing peers. Support is provided in and out of the classroom environment.
 - *Walk-in/Itinerant Services* provide speech and language, occupational, and physical therapy to preschoolers.
 - *Early Learning Center* for students with Autism Spectrum Disorder or similar developmental needs.
 - *Intensive Preschool Program* for students with significant special needs who are not on the autism spectrum.
- **Use of support professionals.** Across the district, Shrewsbury has approximately 150 highly-skilled paraprofessionals, most of whom work with special education students.

In addition, the district employs approximately 144 special education aides (including program aides, aides provided for assisting a specific child or children, applied behavior analysis technicians, and paraprofessionals). Shrewsbury uses highly trained paraprofessionals, most of whom have four-year degrees and/or specialized training, to assist teachers. Paraprofessionals work with special education students in addition to other students who need more time or additional assistance in order to learn. While the district is relatively low-spending, it spends more on paraprofessionals than typical systems. The district also hires BCBA-certified (Board Certified Behavior Analysts) professionals to assist teachers, and can assign a BCBA technician to one student, if that is what the student’s needs dictate. In general, one-on-one instruction is provided if appropriate to the student’s needs. As a result, all students who need more help to learn are provided with a heavier measure of instruction, often in a small group or co-taught setting.

MIDDLE SCHOOL PROFILE:

Braintree Public Schools

Braintree is a middle class community located south of Boston. Many people consider the town to be a solid suburb characterized by families in single-family homes and good schools. Historically, educators held high expectations for all students, and the districts' schools have performed well by most measures.

Braintree has two middle schools, East Middle School and South Middle School, which serve 1,258 students. Since 2004, the percentage of Braintree special education students scoring in the combined Advanced-Proficient category has increased by 26 percentage points in grade 6 math, 15 percentage points in grade 7 ELA, and 15 percentage points in grade 8 math. As shown in Tables 19 and 20, the gains in Braintree are greater than those achieved by special education students statewide.

A culture responsive to the needs of all students.

Veteran teachers recall that Braintree has always had high expectations for both students and teachers. District leaders see “student achievement as the number one priority” in the schools. However, with the implementation of MCAS and No Child Left Behind’s Adequate Yearly Progress (AYP) measure, it became clear that not all students were achieving at expected levels. In 2005, the district did not make AYP for some subgroups, including students with special needs.

Since math was the more problematic subject, in the summer of 2006, special education and general education teachers met and developed a new approach to teaching math to all students. This change incorporated several elements. Educators realized that they had been more focused on teaching than on student learning, so they re-thought their entire approach to math education.

Table 18. Student Demographic Information for Braintree

	FLNE	LEP	Low- Income	SPED	African American	Asian	Hispanic	White
Braintree	7%	1.9%	9.2%	16.6%	1.8%	11.8%	4.2%	80.5%
State	15.4%	5.9%	30.7%	17.1%	8.2%	5.1%	14.3%	69.9%

Table 19. Grade 6 Math Percentage of Students Scoring Advanced + Proficient

	2004	2005	2006	2007	2008	2004–08 Change
Braintree–SPED Students	7%	22%	17%	28%	33%	26
State–SPED Students	10%	13%	13%	16%	18%	8
State–All Students	42%	46%	46%	52%	56%	14

Table 20. Percentage of Students Scoring Advanced + Proficient

	Grade 7 ELA						Grade 8 MATH					
	2004	2005	2006	2007	2008	2004–08 Change	2004	2005	2006	2007	2008	2004–08 Change
Braintree–SPED Students	34%	30%	22%	39%	49%	15	13%	9%	11%	15%	28%	15
State–SPED Students	27%	26%	25%	28%	27%	0	7%	7%	8%	10%	12%	5
State–All Students	68%	66%	65%	69%	69%	1	39%	39%	40%	45%	49%	10

- Special education teachers learned how to help students master math, and general education teachers learned how to meet the needs of students with special needs.
- The old system of placing students on one of four levels in math was replaced by two levels of math courses, Advanced and Proficient, with an extra-help component incorporated into the Proficient group's coursework. This raised expectations for all students and teachers, who believed all students would reach Proficiency if provided with the necessary supports to ensure success.
- There was a new emphasis on using data to inform instruction, and EduSoft was incorporated as a major component of data and item analysis. Data were used routinely to analyze both classroom and individual student performance and to shift resources as needed to help all students learn.

Today, the foundation of Braintree's approach to special education includes: targeting specific student needs identified by the routine use of data analysis; developing strong and regular collaboration among staff in exposing special education students to the regular curriculum; and using NCLB and AYP to set targets that increase attention to improving the achievement of special education students.

Staffing for success with all students.

One reason for the success of special education in Braintree is the district staffing structure. Braintree Public Schools has a K-12 math coordinator and a K-12 ELA coordinator who work across grades and with all sub-groups to develop a curriculum and approach to instruction that works for all students. Leading with math, the K-12 coordinator worked to break down the silos that historically separated regular and special education. The coordinator led efforts to make the math curriculum consistent across the district and developed a framework to provide targeted assistance to students, including those with special needs. Extra math help is provided through the district's Connections program, which gives the teacher substantially more time to work with all struggling students.

The K-12 ELA and math coordinators have helped teachers adapt the curriculum frameworks for all

students, including those with special needs. By conducting intensive analysis of past MCAS release questions, and by using EduSoft for formative assessment, educators can identify individual student strengths and weaknesses, implement effective teaching interventions, and formatively assess student learning that further drives new instruction.

Students with disabilities who are underperforming in mathematics are provided counseling services through the school psychologist and guidance counseling staff. A Student Success Plan is developed with each student and his/her school psychologist or guidance counselor that focuses on student learning, positive behavior, school attendance, and making good choices that advance academic and social/emotional/behavioral progress. The schools have also incorporated community and state agencies to deliver services in advancing learning for students with disabilities.

The Braintree Public Schools' advancement of student learning in mathematics for its students with disabilities can be attributed to the implementation of formative assessment that drives instruction, benchmarking student learning, and collaborative partnerships between general education teachers and special education teachers in Professional Learning Communities that utilize best practices in diagnostic prescriptive teaching. While the district is not formally a Response to Intervention³⁵ (RTI) site, many of the essential elements of RTI programming are implemented on a routine basis in the Braintree Public Schools.

Given the intense partnership of general education teachers and special education teachers focused on student learning and data analysis, formative assessment now informs student learning for students with disabilities in Braintree. Current and relevant data on student learning in mathematics drives daily instruction as well as discussion at monthly department meetings which are run as Professional Learning Communities. The initiation of PLCs as well as the use of formative assessment has led to "student learning and data now being discussed at monthly department meetings." One administrator described the impact of this work, stating that, "The assessment piece has substantially changed what is going on in the

³⁵ RTI is diagnostic-prescriptive, research-based structured learning system designed to provide earlier intervention for students experiencing difficulty learning. The assumption is that this will prevent some students from being identified for special education services by providing just-in-time intervention as concerns emerge.

school.” Teaching and learning is “significantly different” from what it was a few years ago. ELA teachers, mathematics teachers and special education teachers look at each other’s data and jointly take ownership of each student’s results.

HIGH SCHOOL PROFILE:

Arlington Public Schools

Arlington is a middle-class community located just northwest of Boston. Over the past ten years, drawn by the quality of the public schools and the proximity to Boston and Cambridge, young families with school-aged children have begun to move to Arlington.

Arlington High educates 1,132 students. The school has posted striking gains in the percentage of special education students scoring Advanced or Proficient since 2004 (see Table 22). Since 2004, the percentage of grade 10 special education students scoring in the combined Advanced-Proficient category has increased by 39 percentage points in ELA and 33 percentage points in math compared to 13 and 12 percentage point increases among special education students statewide.

The components of an effective inclusive model of instruction.

Inclusion is the preferred model for Arlington High special education students. The use of pullout programs ended in the 2004-05 school year. Today, there are very few substantially separate settings, and students are provided services and additional help based on their academic performance rather than on their special needs status. There are no separate subject classes for special education students; they learn in the general classroom, with support as needed. Students may be identified for enhanced instruction based on MCAS scores or classroom performance. Typically, special education and general education students are assigned to similar extra-help environments.

Consistent with their belief that developing sound reading skills is critical to continued academic success, Arlington High has created the Literacy Lab which provides three extra help sessions in ELA each week. This assistance may be given in small group settings or one-on-one if needed. Regular education ELA teachers staff the Literacy Lab.

Typically, special education students receive most of their instruction from a content teacher and a special

Table 21. Student Demographic Information for Arlington

	FLNE	LEP	Low- Income	SPED	African American	Asian	Hispanic	White
Arlington	11.5%	4.8%	10.8%	15.4%	3.6%	8.5%	4.6%	79.4%
State	15.4%	5.9%	30.7%	17.1%	8.2%	5.1%	14.3%	69.9%

Table 22. Grade 10 Percentage of Students Scoring Advanced + Proficient

	ELA						MATH					
	2004	2005	2006	2007	2008	2004-08 Change	2004	2005	2006	2007	2008	2004-08 Change
Arlington-SPED Students	23%	42%	45%	61%	62%	39	30%	49%	47%	53%	63%	33
Vocational Schools-SPED Students	18%	23%	24%	26%	30%	12	17%	25%	31%	28%	30%	13
State-SPED Students	22%	27%	29%	30%	35%	13	21%	25%	30%	31%	33%	12
State-All Students	62%	64%	70%	71%	75%	13	57%	61%	67%	68%	72%	15

education instructor, also known as a liaison. While there is no formal co-teaching, there is consistent collaboration between the content teachers and the special education liaison, who helps frame instruction so that it is more effective for students with special needs. This enables special education students to access the general curriculum, with different pacing and additional resources and support aligned to meet their needs.

Finally, Arlington is implementing a Response to Intervention model (RTI). While RTI is not recognized as a special education intervention, it is based on robust formative assessments and the adjustment of teaching (as needed) to improve student learning. RTI requires educators who are comfortable with ongoing assessment and who understand the value of data in shaping the curriculum and improving learning. To ensure this, district leadership works to place stronger teachers with struggling students and believes that this practice contributes to Arlington's solid performance on MCAS.

HIGH SCHOOL PROFILE:

Plymouth Public Schools

Plymouth, the largest geographic municipality in the state, serves over 8,000 students in 13 schools. A working class community, Plymouth is one of the few districts in the Commonwealth that has gained students over the past ten years. District leaders note that families tend to stay in Plymouth when they move to a larger home, so it is important to have consistency across all of the schools.

Plymouth has two high schools—Plymouth South, which has a vocational technical component, and serves 1,493 students, including 713 in vocational-technical programs, and Plymouth North which educates 1,054 students. Since 2004, the percentage of grade 10 special education students scoring in the combined Advanced-Proficient category has increased by 32 percentage points in ELA and 30 percentage points in Math compared to 13 and 12 percentage point increases among special education students statewide (see Table 24 on page 29).

Existence of a successful systemic culture.

There is a belief at the district and school level that culture drives results, and that a successful culture

must be sustained over time as new teachers come into the system. When speaking with district leadership, two words were often repeated—"consistency" and "system." Just a few years ago, there was little consistency from school-to-school in curriculum or instruction. This became particularly problematic when parents moved across town to a new school with a different scope and sequence than their child's previous school.

District leadership believes students can succeed and is committed to providing teachers with the resources they need to teach all students. As one educator said, "If a student with severe special needs enters school in January and needs a one-on-one setting, it will happen." Further, central administration sees serving special education students as the key to a system that is serving all students well.

Supports for all students.

Inclusion is Plymouth's model for meeting the needs of its students with special needs. There are no resource rooms and the limited pullout programs that do exist are specifically targeted to provide more support in specific content areas. In both high schools, the Learning Center is a resource for additional support for special education students outside of the classroom. The Centers provide opportunities for making up tests and receiving extra instruction, as well as for general and special education teachers to meet and discuss the progress of individual students. It is open all day and at lunchtime, for students with tight schedules. Special education teachers and paraprofessionals staff the Center.

Each high school features a Freshman Academy model that provides additional support and transition resources for entering freshman, including those with special needs. The Freshman Academy, while not a special education-specific program, offers support and transition help for 9th graders. The theory is that 9th grade is a make-or-break time for many students, and that organizing resources to give them additional support increases the chances that every high school student will stay on track toward receiving a high school diploma. Academy educators, who are located in the same area of the school, have time to meet and discuss student needs, instructional strategies, and curriculum issues.

While students with behavior issues might not all be identified as students with special needs, these students benefit from targeted services and settings. There is a referral process for behaviorally-challenged students, and staff receive training on how to handle behavior issues. At South High School, there is a class for approximately eight students who might otherwise have been wandering the halls, going outside, or not attending school. This setting is designed to support them, provide behavior modification resources, and give them access to the curriculum. At North High School, the behavior room also serves approximately eight students and is managed by a support team consisting of a modified special needs teacher, paraprofessional, and teachers from the Learning Center (as needed.) Students are still provided with the full curriculum to the extent possible.

Paraprofessionals are employed extensively to support special education activities, including providing one-on-one support, general classroom support, small-group learning support, clerical assistance, and help with accommodations.

In Plymouth, Individual Education Programs (IEP) are designed to tightly focus on working with the student’s specific disability and providing targeted assistance that will lead to successful learning out-

comes. IEPs are considered “dynamic documents” by Plymouth faculty—they are regularly reviewed and revised to make sure the student’s current needs are being met.

In addition to standard accommodations, the district employs non-standard accommodations as needed, including a range of assistive technology—equipment and products acquired commercially, modified, or customized—and used to improve functional capabilities of a child with special needs. Plymouth has developed programs for some students who might otherwise be in an outside placement, and assistive technology is crucial to the success of these programs. There is a part-time assistive technology specialist that oversees and adapts this technology to students’ needs.

Tutoring is available for all, including special education students, as needed. Students are assigned to tutoring based on a range of indicators including classroom performance, MCAS results, and teacher recommendations. For additional support, there is a Study Lab for freshman and a Study Class for all grade 10 students.

Literacy liaisons, under the guidance of the curriculum coordinator, work with ELA teachers to enhance instruction. Reading is part of the daily curriculum with instruction in phonemics and comprehension

Table 23. Student Demographic Information for Plymouth

	FLNE	LEP	Low- Income	SPED	African American	Asian	Hispanic	White
Plymouth	1.3%	0.5%	23%	17.3%	2.4%	1.0%	2.2%	91.7%
State	15.4%	5.9%	30.7%	17.1%	8.2%	5.1%	14.3%	69.9%

Table 24. Grade 10 Percentage of Students Scoring Advanced + Proficient

	ELA						MATH					
	2004	2005	2006	2007	2008	2004–08 Change	2004	2005	2006	2007	2008	2004–08 Change
Plymouth–SPED Students	13%	28%	27%	20%	45%	32	13%	24%	32%	30%	43%	30
Vocational Schools–SPED Students	18%	23%	24%	26%	30%	12	17%	25%	31%	28%	30%	13
State–SPED Students	22%	27%	29%	30%	35%	13	21%	25%	30%	31%	33%	12
State–All Students	62%	64%	70%	71%	75%	13	57%	61%	67%	68%	72%	15

offered, even at the high school level. There is also a Reading Lab that services all students, based on need. Resources include Wilson and Orton-Gillingham, which are multisensory programs that utilize structured techniques to remediate reading and spelling difficulties.

VOCATIONAL TECHNICAL HIGH SCHOOL PROFILE: **Assabet Valley Regional Technical High School**

Assabet Valley Regional Technical High School serves 933 students and is located in the central Massachusetts town of Marlborough. Assabet Valley enrolls students from 13 surrounding communities. The school offers vocational-technical training in traditional fields such as plumbing and carpentry and in newer areas including computer programming, web development, and facilities management. In assessing how the school responds to the challenge of meeting individual student needs, one administrator notes, “There is always a face behind the data. Parents and students expect us to educate our students for the world.”

The percentage of Assabet Valley special education students scoring in the combined Advanced-Proficient category has increased since 2004, to 41% in ELA and 30% in Math. On the 2008 MCAS, a higher percentage of Assabet Valley special education students scored in the combined Advanced-Proficient category than special education students statewide.

Staffing and curriculum to support individual learners.

Assabet Valley occupies a large, well-maintained building that is not too big for teachers to get to know the students. Vocational teachers may instruct the same students for two or three years, which also helps develop good relationships. In addition, extra help and support for students is made available after-school, during the summer and on Saturdays, as well as up to four days a week of MCAS review available during the school day. Assabet Valley faculty have high expectations for their students; students receive detention if they do not attend the help sessions, which are generally taught by their own teachers.

Each special education teacher serves as a liaison to 35 students. Liaisons have access to a wealth of infor-

mation about students—grades, behavior, disability information, MCAS and other test scores—which helps them ensure that the students’ needs are met. Liaisons use all types of communications to stay in touch with parents, including letters, phone calls, emails, and meetings.

The special education curriculum has become more rigorous. Generally there are 15 to 18 students in a class. There are three basic teaching models for special education:

1. **Co-teaching for ELA and math:** two teachers, typically one content instructor and one special education teacher, are both in the classroom.
2. **Consultant support for social sciences and science:** the consultant teacher works with classroom teachers and special education students, but is not assigned to just one classroom. Rather, the consultant distributes his/her time across several rooms. He/she modifies lessons, modifies test questions, works with teachers to develop alternative approaches to teaching and generally helps identify individual student needs and supports, as well as communicates with parents.
3. **Non co-taught classes:** students receive accommodations in the general education classroom. In these classes, instruction is delivered by the general education teacher with consultation from the special education liaison.

Math and ELA are taught across the curriculum, including some academic subjects incorporated into vocational technical courses. One advantage of a vocational educational setting is that students see that reading, writing, science and math are relevant to careers. For example, math is used to determine the pitch of a roof for carpenters, and calculus is utilized in precision machining. Hands-on and project-based learning is the norm at Assabet Valley. Staff members believe that the technical education component motivates students and helps them connect academics to their future careers. One struggling special education student stays after-school and works on both career skills and academics. His teacher believes that the student stays in school and works hard because he sees school work connecting to his adult life. “Their future starts when they walk through the front door,” observed one administrator.

Strategic use of assessment data.

Several years ago some regional vocational schools, including Assabet Valley, implemented RISO, a hardware and software solution that allows teachers to have real-time assessment of items on a quiz or test. Results can be used for item analysis on a classroom and individual student. At Assabet Valley, a dedicated RISO technical expert supports the whole school by providing reports in real time and over time to identify trends. RISO is targeted toward math, but is beginning to be used in ELA and other subjects. Test Wiz³⁶ is used for more general assessment of progress.

RISO reports help teachers pinpoint learning weaknesses, adjust instruction, quiz students, and receive information to help further refine teaching. In the case where many students miss a particular type of question, classroom discussions provide valuable forums for understanding what is missing in instruction. Teachers discuss RISO results as part of their common planning time.

Since the school receives students from 13 different districts, students may enter ninth grade with widely

varying reading skills. The Stanford 10 is used as an initial placement test in the areas of English and mathematics. Student results on the Grade 8 math MCAS, Stanford 10 Achievement test and a departmental math test help place students in the appropriate math class.

Professional time for teachers to collaborate.

Teachers meet once a week to plan, with general education and special education teachers participating together. Because of a centralized special education office, teachers of students with disabilities have substantial time during the day to discuss pedagogy and students. Co-teachers and consultants routinely meet for 30 minutes after and between classes to plan.

There are four professional development days each year covering topics including: differentiated instruction, teaching in a standards-based classroom, and inclusion.

These topics are of interest to both general and special education teachers. There are also Teachers 21³⁷ project-based learning courses available, as well as

Table 25. Student Demographic Information for Assabet Valley RTHS

	FLNE	LEP	Low- Income	SPED	African American	Asian	Hispanic	White
Assabet Valley	14.4%	1.6%	27%	28.2%	0.9%	0.3%	15.1%	81.9%
State	15.4%	5.9%	30.7%	17.1%	8.2%	5.1%	14.3%	69.9%

Table 26. Grade 10 Percentage of Students Scoring Advanced + Proficient

	ELA						MATH					
	2004	2005	2006	2007	2008	2004-08 Change	2004	2005	2006	2007	2008	2004-08 Change
Assabet Valley –SPED Students	0%	20%	25%	23%	41%	41	11%	19%	36%	27%	41%	30
Vocational Schools–SPED Students	18%	23%	24%	26%	30%	12	17%	25%	31%	28%	30%	13
State–SPED Students	23%	27%	29%	30%	35%	12	21%	25%	30%	31%	33%	12
State–All Students	62%	64%	70%	71%	75%	13	57%	61%	67%	68%	72%	15

36 Test Wiz is assessment analysis software used in some districts and schools throughout Massachusetts. Test Wiz allows the user to conduct broad assessments of test scores but it is not tightly aligned with the strands of the state curriculum frameworks.

37 Teachers 21 is a Wellesley-based non-profit organization that provides a wide range of professional development resources to schools and districts. The organization provides consulting services to districts to help them develop effective professional development as well as organizing professional development institutes with various school districts and DESE.

conferences and workshops that support improved teaching. Finally, the special education coordinator holds workshops on technical matters and changes in special education law and compliance.

VOCATIONAL TECHNICAL HIGH SCHOOL PROFILE:

Montachusett Regional Vocational Technical School

Montachusett Regional Vocational Technical School (RVTS) is a large complex that provides academic and vocational technical education to 1,341 students from 18 sending communities. The school offers vocational technical training in traditional fields such as Plumbing and Culinary Arts and in newer areas including Programming and Web Development and Early Education and Care.

Sixty-four percent of Montachusett RVTS’s special education students scored in the combined Advanced-Proficient category on the 2008 grade 10 MCAS math test while 43% scored in the combined Advanced-Proficient category on the ELA test. Since 2004, the percentage of Montachusett’s special education students scoring in the Advanced and Proficient categories has increased by an impressive 51% in math and 28% in ELA.

The evolution of an effective model of inclusion.

Beginning in the 2004-05 school year, district leadership realized that the school was in danger of not making Adequate Yearly Progress (AYP), as defined in the No Child Left Behind Act. One sub-group that was in danger of not making AYP was special education students in the area of ELA. As a result of these concerns, the school moved aggressively to reorganize its special education models to better serve all students.

Historically the school used a traditional education model that divided students into three categories: Title I; special education; and academic/college prep. Teachers were placed in distinct groups that worked independently of each other and services were segmented. As a result of the reorganization implemented in 2006, all students now participate in the regular curriculum. Resources are organized to provide additional help to students as needed, but all students are expected to master both academic and technical vocational frameworks.

One of the structural changes contributing to Montachusett RVTS’s improved MCAS performance is the elimination of MCAS specialist positions. These individuals had been responsible for providing MCAS

Table 27. Student Demographic Information for Montachusett RVTS

	FLNE	LEP	Low- Income	SPED	African American	Asian	Hispanic	White
Montachusett	10.9%	2.1%	31%	15.8%	1.8%	2.5%	14.5%	77.2%
State	15.4%	5.9%	30.7%	17.1%	8.2%	5.1%	14.3%	69.9%

Table 28. Grade 10 Percentage of Students Scoring Advanced + Proficient

	ELA						MATH					
	2004	2005	2006	2007	2008	2004–08 Change	2004	2005	2006	2007	2008	2004–08 Change
Montachusett–SPED Students	15%	16%	18%	28%	43%	28	13%	33%	19%	17%	64%	51
Vocational Schools–SPED Students	18%	23%	24%	26%	30%	12	17%	25%	31%	28%	30%	13
State–SPED Students	23%	27%	29%	30%	35%	12	21%	25%	30%	31%	33%	12
State–All Students	62%	64%	70%	71%	75%	13	57%	61%	67%	68%	72%	15

remediation to students and MCAS training and support for teachers. Beginning two years ago, the responsibilities for remediating students and keeping current with changes in MCAS testing trends were placed directly into the hands of the regular teaching staff. This structural and cultural change has resulted in educators who are more cognizant of statewide assessments, knowledgeable about how to directly prepare and support students for MCAS, and who have adopted ownership over improving the outcomes of all of their students.

Today Montachusett RVTs is a place where teaching and learning is everyone’s responsibility. Teachers and staff are expected to give their best effort to move all students ahead, regardless of specific learning needs. Teachers and administrators at Montachusett RVTs really believe all students can succeed, and students believe they can meet the challenge.

As is the case in vocational technical schools generally, the technical education provided can help students connect academics to their future career. The idea that students need to be able to read and do math in order to earn their vocational credentials means that academics are taken seriously.

Staffing for success with all students.

Instead of having a special education director, the school shifted that position to a director of student support services. The director works with a team chair who handles much of the paperwork involved in special education. This arrangement leaves the student support services director time to work on more substantive issues relating to student support and achievement. A testing psychologist also assists the special education staff.

The academic and vocational sides of the school have always worked together to collaborate on projects and assignments that promote integration between the two areas. The school is working to increase the time

teachers have to plan lessons that reinforce technical and academic concepts and that demonstrate the fit between the two sides of the student’s education. This supports the movement toward connecting academics to career interests as reading, writing, math and science are made relevant to work. Students have multiple opportunities for extra help. A committee reviews multiple student assessment data, including standardized tests, current performance in content area courses, and IEP/504 plan requirements. In order to support students who would benefit from tutoring, guidance counselors and teachers are also able to make recommendations.

After-school tutoring is available, with late buses scheduled for students who participate. The district spends about \$15,000 paying some of its math and English teachers to work an extra hour three days a week. There are also summer programs that provide help, and vocational teachers encourage students to attend these sessions.

**“BEATING THE ODDS” K-8 SCHOOL PROFILE:
East Somerville Community School**

East Somerville Community School (ESCS) serves 518 K-8 students in two facilities, a situation necessitated by a fire in December 2007 that destroyed the building long used for the school. ESCS has a large percentage of low-income students (86%) and students whose first language is not English (designated FLNE) (74%).

District leadership notes that East Somerville Community School has long enjoyed a reputation for being focused on academics and is seen as a place that improves children’s achievement, “regardless of where they are” when they enter the school. Between 2005 and 2008, East Somerville Community School made solid progress on increasing the percentage of special education students scoring Advanced or Proficient, with percentages much higher than the

Table 29. Student Demographic Information for ESCS

	FLNE	LEP	Low- Income	SPED	African American	Asian	Hispanic	White
East Somerville Community School	73.9%	27.4%	85.7%	20.3%	8.1%	5%	66%	20.5%
State	15.4%	5.9%	30.7%	17.1%	8.2%	5.1%	14.3%	69.9%

state average for special education students. This is a noteworthy accomplishment given the urban demographics of the school.

Organizing for the success of all students.

On the 2005 Spring MCAS, for the first time, the school did not make Adequate Yearly Progress in any of the areas on the test. For the 2005-06 school year, new school leadership and a newly formed school leadership team committed to developing specific school improvements that relied on more robust data analysis to improve teaching and learning. The revamped school improvement plan incorporated data-specific goals, and specific curriculum domains, such as vocabulary development and understanding nonfiction text.

Over time, the school has moved toward a model in which data are used to identify individual needs, and interventions are crafted using a centralized base of available resources—ELL, tutoring, after-school programs—instead of looking to one intervention as the remedy. This “resource mapping” has provided more flexibility in helping all students learn.

Early in the school year, middle school students are assessed based on their previous year’s MCAS performance and on questions pulled from earlier state assessments. This allows the teacher to understand areas of weakness in his/her class as well as what individual students need to learn to master the material. Data from textbook assessments and classroom quizzes and tests are also used to inform instruction. Lessons are reinforced until the concept is understood. It is the understanding of the faculty at ESCS that ensuring comprehension may take more time and repetition for students with special needs.

As a Reading First school, ESCS had access to a range of student assessments, which are used in conjunction with MCAS and local assessments to identify strengths and weaknesses in student learning. School personnel also focus on working with ELL and special education students to develop strategies to improve achievement.

An effective model of inclusion.

At ESCS, students work on the overall curriculum in the general classroom and sharpen specific skills in the pullout sessions, including some one-on-one work as

needed. Moving to inclusion, and away from the previous approach, which separated special and general education students and services, has required training and support for teachers as they learn new approaches in educating students with special needs. While inclusion is the goal, there are two self-contained classrooms that remain at ESCS.

In a general class with an inclusion teacher, the goal is to accelerate the curriculum to challenge students while providing extra help and support to all students who are having difficulty, including those with disabilities. For example, students might be asked to identify the essential elements of a fable, with the teachers providing students who have different learning types with a range of options for displaying their knowledge, but expecting all students to display a high level of comprehension. The inclusion teacher and other staff, sometimes a specialist, work with all children in the class to help them understand and complete the work.

At ESCS, the elementary inclusion specialist has become a key to successful inclusion of students with the most acute learning disabilities. The specialist works with the classroom teacher to identify the interventions and supports necessary to meet each student’s special needs. This may involve cognitive analysis or it may involve identifying physical issues—poor eyesight or fatigue for example—as barriers to learning. The staff believes it is important to understand the student’s different needs before curriculum and instruction can be successfully differentiated to meet those needs.

At the middle school level, the inclusion specialist provides overall support to students and assists the teacher in introducing and reinforcing concepts, filling learning gaps, and checking work. Middle school staff noted that inclusion is particularly appreciated by their students, who do not want to be separated from their peers.

In middle school particularly, teachers take an interdisciplinary team approach to delivering the curriculum. Students may work on a project that involves science and writing and will receive grades in each subject. For example, the Bridge Project illustrates a true multi-disciplinary approach to teaching and learning. As part of this project, middle school

students are assigned to design and build a bridge. This requires research about bridges generally—what they do, where they are built—as well as inquiry about technical aspects of bridges—the physics and mechanics of good design, stresses, and aesthetics.

Students eventually design a bridge with software and build the bridge out of balsa wood. They increase their scientific, mathematical, and general vocabulary in this project. They also learn hands-on science and how to work together to accomplish a goal. All stu-

dents benefit from this and all can contribute to the project’s success.

Tutoring is available in a variety of settings: before- and after-school, on Saturdays, and in summer sessions. The city of Somerville funds the ACE-IT program (Academic Centers of Excellence) which supports tutoring. In addition to tutoring outside of regular hours, the school developed a 30-40 minute enrichment block that provides time for student-specific interventions and assistance during the school day.

Table 30. Grade 4 Percentage of Students Scoring Advanced + Proficient

	ELA					MATH				
	2005	2006	2007	2008	2005–08 Change	2005	2006	2007	2008	2005–08 Change
East Somerville Community School–SPED Students	13%	27%	26%	58%	45	4%	40%	31%	69%	65
Somerville District–SPED Students	16%	15%	14%	12%	-4	11%	11%	21%	13%	2
State–SPED Students	17%	16%	19%	14%	-3	14%	15%	17%	18%	4
State–All Students	57%	50%	56%	49%	-8	40%	40%	48%	49%	9

Table 31. Grade 6 Percentage of Students Scoring Advanced + Proficient in Math

	2005	2006	2007	2008	2005–08 Change
East Somerville Community School–SPED	5%	6%	0%	27%	22
Somerville District–SPED Students	10%	10%	9%	12%	2
State–SPED Students	13%	13%	16%	18%	5
State–All Students	46%	46%	52%	56%	10

Table 32. Grade 7 ELA & Grade 8 Math Percentage of Students Scoring Advanced + Proficient

	ELA					MATH				
	2005	2006	2007	2008	2005–08 Change	2005	2006	2007	2008	2005–08 Change
East Somerville Community School–SPED	33%	77%	62%	54%	21	13%	25%	20%	40%	27
Somerville District–SPED Students	33%	31%	29%	20%	-13	4%	32%	5%	10%	6
State–SPED Students	26%	25%	28%	27%	1	7%	8%	10%	12%	5
State–All Students	66%	65%	69%	69%	3	39%	40%	45%	49%	10

MOVING FORWARD: CONSIDERATIONS FOR DISTRICT LEADERS AND STATE POLICYMAKERS

Data are fundamental.

Placing a student in an inclusive setting does not change the specific learning needs of that student. Effective instruction in an inclusive environment requires that educators understand how the student learns and provide the instruction and support required to meet those needs. One way to better understand students' needs is to develop a system for analyzing and using assessment data at the school, classroom, and student level. An effective data system is a critical component in developing a comprehensive approach for improving the achievement of all students, including those with special needs and other learning differences.

The district can support robust data analysis at the school and classroom level, but ultimately, teachers must understand how to use the data to inform and improve classroom instruction. Further considerations for data use, drawn from the districts and schools in this report that have increased the number of special education students achieving at the Advanced or Proficient levels on MCAS, include:

- **Develop banks of test items that are mapped to the curriculum frameworks.** These test items can then be used to assess student progress and identify gaps in student learning. The test results provide teachers with information on the areas in the curriculum where all students need additional instruction as well as areas in which individual students may require further explanation or different modes of instruction.
- **Encourage the use of ongoing formative assessment that provides teachers with timely feedback.** Timely feedback on student progress is necessary if teachers are to effectively modify instruction. The ability to gauge students' mastery of content covered (for example, in a particular unit) is maximized if the teacher receives student data before moving on to more complex material. The timeliness of the feedback allows for more timely intervention with struggling students.

- **Utilize technology to enhance data analysis.** This can include sophisticated hardware and software tools such as RISO as well as more traditional resources such as the Department of Elementary and Secondary Education's MCAS item analysis and commercial software packages such as EduSoft.

Move away from silos and toward an integrated approach.

Schools and districts that are committed to providing more effective instruction to their students must be committed to reengineering their teaching resources. Educators in this study noted that the same teaching technique could be effective with a special education student, an English language learner, or a student who was just struggling with some piece of the curriculum. Students do not fit into neat compartments; their needs are varied. Therefore, instruction and support resources should be made available to all students based on individual learning needs, not based on placement in a category or assignment of a label.

The survey of special education directors indicated that many educators understand that moving toward inclusion and away from compartmentalizing education services is the best way to meet diverse learning needs. Schools and districts in this study are further along in that journey than others, but all schools and districts can benefit from some of the practices described here for organizing personnel and resources to support students with learning differences in a regular school setting.

Examine the effective practices of vocational technical schools.

In addition to the two regional vocational technical schools featured in the study, other schools within the group of the state's thirty vocational technical schools showed strong improvement in the MCAS achievement of special education students over time. These

schools also have higher overall MCAS pass rates and lower dropout rates than the statewide average.³⁸

Some observers point out that vocational schools and regular high schools are not comparable. They argue that vocational schools select their students from a different pool of applicants, have more resources (higher per-pupil spending) than other schools, and have a special education population that is less challenging than the population in regular schools. Despite these differences, vocational technical schools may have lessons to teach other Massachusetts public schools. Research for this report indicates that vocational technical schools:

- Connect students' classroom experiences directly to future career choices.
- Use sophisticated assessment and item analysis systems to provide immediate feedback to teachers that is used to shape instruction.
- Spend a lower percentage of their operating budgets on special education services.

Given high dropout rates in some systems, and a persistent achievement gap among some student populations, it may be worth examining vocational technical schools to identify the elements of the vocational technical school experience that contribute to student success.

Provide more structured guidance for classifying students according to disability type.

The data presented in Part I of this report shows that in demographically similar communities, there is a wide variation from district to district in the distribution of students in disability categories. One reason for the variation may be that the definitions of the disability categories are open to widely varying interpretations. As a result, in one district, a student may be classified as having a specific learning disability while that same student might be placed in a very different category in a neighboring district. If education services are to be consistent statewide and responsive

to specific student learning needs, the current, somewhat elastic definitions should be examined and more specific guidance for districts' use in classifying students by disability types should be provided.

Develop mechanisms to disseminate effective practices in educating students with special needs.

The schools and districts in this study have implemented policies and instituted practices that contribute to improving the achievement of all students, including those with special needs. It is likely that there are a number of districts and schools across the Commonwealth that have similar insights into what policies and procedures are effective in educating students who are struggling, including those with disabilities. Too often, however, there are few opportunities for this information to be shared with other educators. Both the Department of Elementary and Secondary Education and districts might consider the following dissemination vehicles:

- Regional collaboratives, which serve a wide area, can provide a forum for "best practice" discussions.
- Interactive online professional development workshops led by schools that have demonstrated success in boosting the achievement of special education students, and
- Regional "best practice" forums sponsored by non-profit organizations engaged in working to improve in special education in Massachusetts.

CONCLUSION

Staff in the districts and schools who participated in this study recognized that they needed to make changes in the way students with disabilities were educated, and they took the appropriate actions to ensure that these changes were made. This involved curriculum reengineering, resource deployment, incorporating formative assessment in classroom practice and

³⁸ For an overview of vocational-technical education in Massachusetts, see Fraser, A. (October 2008). *Vocational-technical education in Massachusetts*. A Pioneer Institute White Paper. This white paper includes the data that the vocational technical school dropout rate is 1.8% compared to 3.8% statewide (p. 1) and the MCAS pass rate for these schools is 1 to 2 points higher (p.5).

effectively using data. In addition to these wholesale changes, educators interviewed in this study readily acknowledged that doing the small-scale, simpler things well can also make a sizable difference in the progress of special education students.

If schools and districts are to improve the education of their students with special needs, they must make substantive and comprehensive changes to their policies and practices for educating these students. Fortunately, establishing the kind of teaching and instructional settings that work for students with special needs simultaneously benefits all students. The prescription for effective instruction used by the districts and schools in this study is straightforward:

- Understand the needs of each student.
- Assess progress and adjust instruction accordingly.
- Allocate resources as needed.
- Continue the cycle of assessing, adjusting, and allocating resources appropriately.

Change is not easy. Districts and schools in the study have implemented many changes in how they educated their students, particularly those with special needs. Even when the change results in positive benefits, district and school leaders realized that evolving the educational model into one that is powerful enough to meet the needs of a wide range of learners does take time.

Translating all of these efforts into achievement gains in the classroom is challenging, but as this report highlights, some districts and schools are making good progress in providing effective education for students with special needs. While all students are not special education students, all students could benefit from instruction that is tailored to their learning styles and unique needs. A school that is organized to deliver effective instruction to its special education students is more likely to effectively educate all of its students, including those who sometimes struggle in the classroom.

APPENDIX A: List of Top 50 Demographically Advantaged Communities

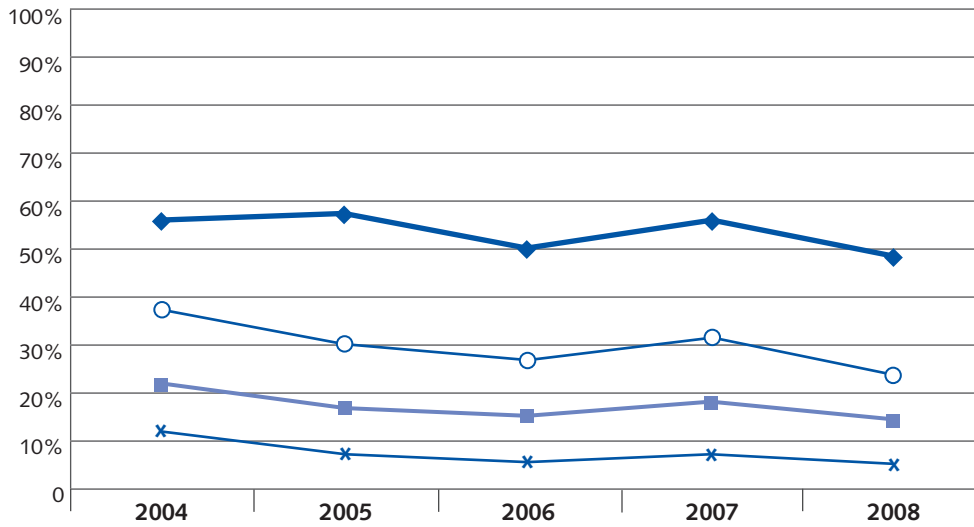
This category is defined as those districts with the lowest percentages of students receiving free and reduced lunch. More than 50 districts are listed as a result of regional districts representing different school levels, i.e. elementary, K-8, high school.

- Acton
- Acton-Boxborough
- Andover
- Bedford
- Belmont
- Billerica
- Burlington
- Chelmsford
- Cohasset
- Concord
- Concord-Carlisle
- Danvers
- Dover-Sherborn
- Duxbury
- Easton
- Franklin
- Freetown-Lakeville
- Groton-Dunstable
- Hamilton-Wenham
- Hanover
- Harvard
- Hingham
- Holliston
- Hopkinton
- King Philip
- Lexington
- Lincoln
- Lincoln-Sudbury
- Littleton
- Longmeadow
- Lynnfield
- Manchester Essex Regional
- Marblehead
- Masconomet
- Medfield
- Medway
- Mendon-Upton
- Nantucket
- Nashoba
- Needham
- Newton
- Norfolk
- North Andover
- North Reading
- Northborough-Southborough
- Northborough
- Norwell
- Old Rochester
- Pentucket
- Reading
- Sandwich
- Scituate
- Sharon
- Southborough
- Sudbury
- Tewksbury
- Tyngsborough
- Wachusett
- Wayland
- Wellesley
- Westford
- Weston

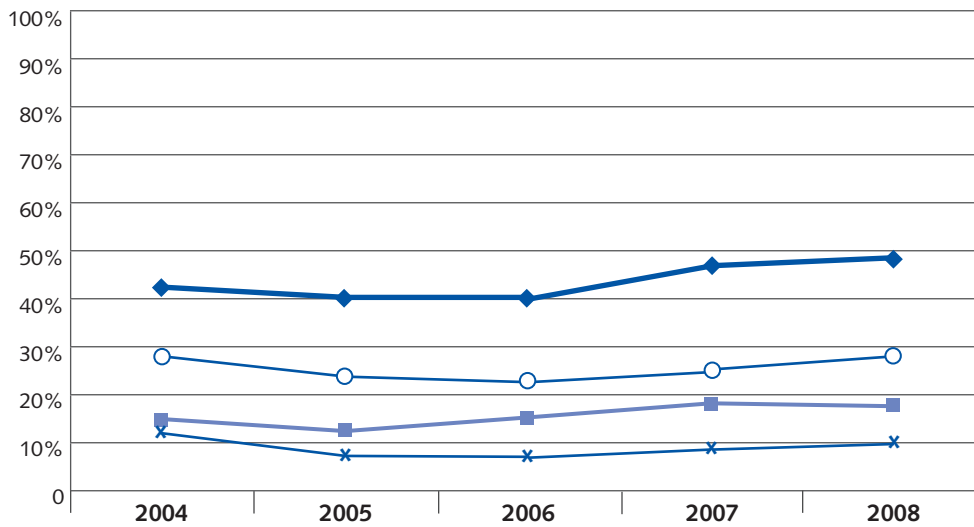
APPENDIX B: Special Education Students' Performance on MCAS

The following graphs illustrate the relative MCAS performance of different groups of students in Massachusetts over time. Groups referenced include: all students who took the MCAS in a particular grade and subject; all special education students statewide; special education students attending school in the 50 most demographically advantaged districts;³⁹ and students attending school in the 10 urban districts.⁴⁰

Grade 4 ELA Special Education Advanced + Proficient



Grade 4 Math Special Education Advanced + Proficient

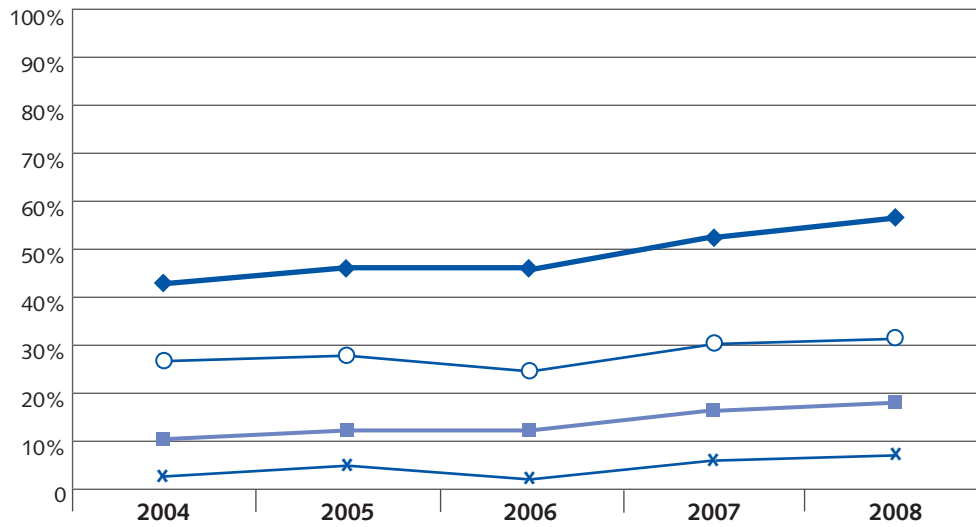


- ◆ State-All Students
- Demographically Advantaged-Special Education
- State-Special Education
- × Urban 10-Special Education

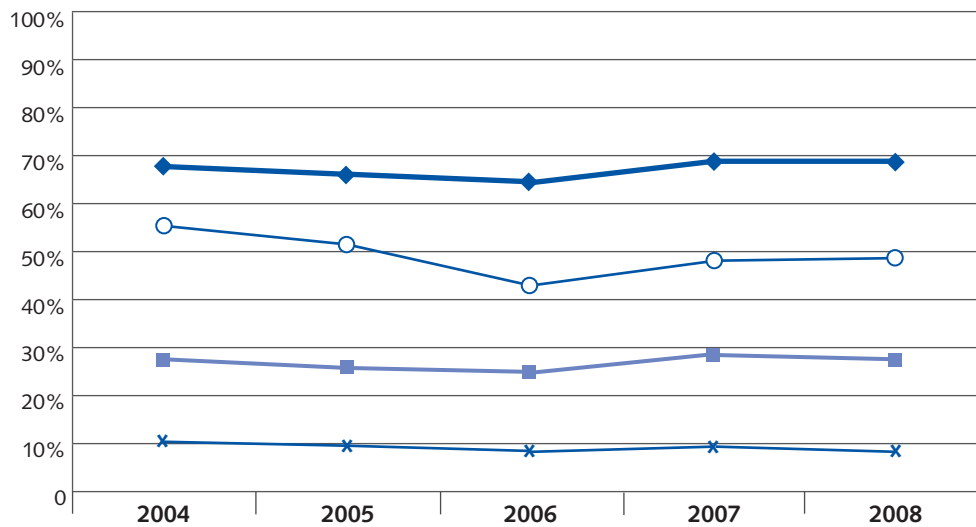
39 See Appendix A for list of districts.

40 Boston, Brockton, Fall River, Holyoke, Lawrence, Lowell, Lynn, New Bedford, Springfield and Worcester.

Grade 6 Math Special Education Advanced + Proficient

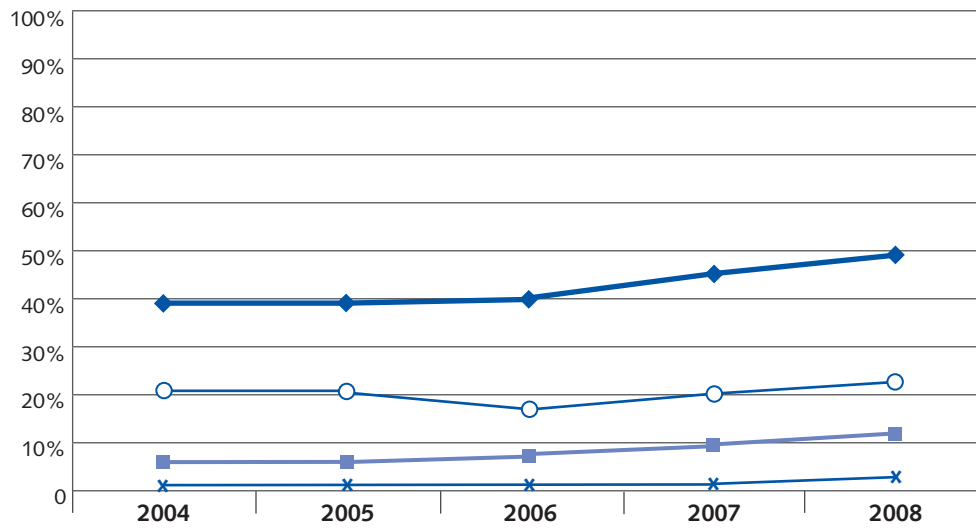


Grade 7 ELA Special Education Advanced + Proficient

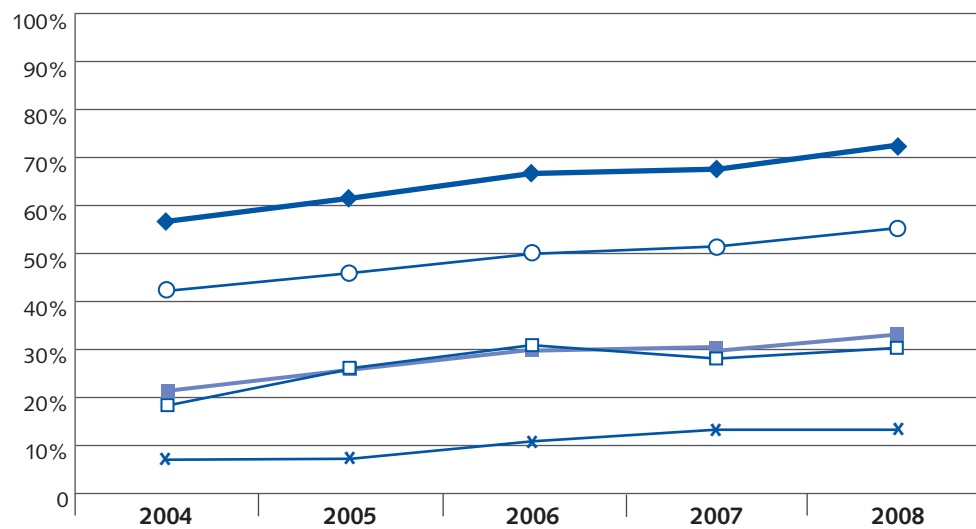


- ◆ State-All Students
- Demographically Advantaged-Special Education
- State-Special Education
- × Urban 10-Special Education

Grade 8 Math Special Education Advanced + Proficient



Grade 10 Math Special Education Advanced + Proficient



- ◆ State-All Students
- Demographically Advantaged-Special Education
- State-Special Education
- Vocational-Special Education
- × Urban 10-Special Education

Grade 10 ELA Special Education Advanced + Proficient

