

## Student Achievement in Massachusetts 1992-1999

This report examines student performance in Massachusetts before and after implementation of the Education Reform Act of 1993. This work will pay special attention to the *McDuffy v. Secretary of Education* plaintiffs because they triggered the reform act and because they give us a good perspective on education reform generally.

The McDuffy plaintiffs were cities and towns. The plaintiffs ranged from middle class towns like Rockland to lower middle class towns like Winchendon to urban core cities like Brockton. Plaintiffs sued the Commonwealth because they felt that their children were not receiving equal educational opportunity due to differences in per-pupil spending among poorer and wealthier communities.

We will look at three indicators.

The first is *reform spending*: how much new aid went to these communities because of the Education Reform Act of 1993?

The second is *relative rank before and after enactment of the Education Reform Act*. Where did the communities rank on statewide tests before and after the reform act had kicked in?

The third is examining at the “*pass rate*” of two kinds of communities—those that are in the middle of the state’s demography (Middle Massachusetts); and those that are most in need of help and at-risk for failure - the major cities and challenged towns, those districts at the lower end of the state’s demography.

**The 1992 MEAP and the 1999** This report compares scores on two different tests. That is not the best way to analyze anything but in the absence of more than two MCAS administrations, it is the only way we have to evaluate progress. I will look at the 1992 MEAP tests, the last year pre-reform and at the 1999 MCAS, the latest year post-reform.

You cannot directly compare MEAP and MCAS. They are different tests designed for different purposes. The MEAP was administered from 1988 to 1996 and was intended to allow observers to compare district-to-district performance. It was a short test that was not designed to gather data about individual students. The MCAS is designed to provide data on district, school, classroom, and individual performance. That is one reason why it is so long. The MCAS also assesses performance relative to established curriculum frameworks - it tests kids based on what the state says they are supposed to know to be well educated. The MEAP was more of a general assessment. There were no curriculum frameworks back then.

Having said that, there are bases for comparison. Both of these tests were given to all systems. The MEAP was designed to compare system-to-system performance, something the MCAS also does. Back in 1992, the state had expectations of certain levels of acceptable performance for all systems, again similar to the MCAS. The MEAP did not test special education students; the MCAS does. Looking at results from 1992 and 1999 is interesting in terms of giving us information about how well education reform is working.

### **Before and After the Education Reform Act of 1993**

**1. Funding** The Education Reform Act gave money to places that were low-spending. It is no surprise that pre-reform demographically disadvantaged communities did not spend as much as advantaged communities. Many of the McDuffy communities were disadvantaged demographically. Please remember that Rockland, Whitman, Hanson, Leicester, Rowley, Salisbury, and Carver were among the plaintiffs. Those are not disadvantaged towns. They are solid middle class or Middle Massachusetts communities, to use my term for describing communities that are in the middle of the state's demography.

Chapter 70 education funding increased dramatically because of reform. In 1994, the average state contribution per-pupil in Massachusetts was \$1502. In 1999, it was \$2765. The 16 McDuffy plaintiffs received an average of \$4648 per pupil in reform aid. (This average is pulled up because two of the McDuffy plaintiffs, Lawrence and Holyoke, received substantially more state funding than other communities.) McDuffy systems received more money than other districts because they were spending less than other places and the funding formula did a good job of compensating for such spending disparities.<sup>1</sup>

**2 Rank performances** I looked the 1992 MEAP scores for Reading and Math and compared them to the 1999 MCAS English and Math scores for regular education students. I looked at regular education students because the MEAPs only tested regular education students.

If you look at the rank order of McDuffy communities in terms of student performance on MEAP and MCAS tests, several points emerge. The first is that the demographically typical communities - Middle Massachusetts - sometimes showed solid improvement and sometimes did not.

### **Grade 4**

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<sup>1</sup> The amount of education reform money per-pupil, per-district, is computed in the following manner: Determine the amount of pre-reform Chapter 70 (school aid) funding per-pupil for Fiscal Year 1994 by dividing the total amount per district by the number of students. Do the same calculation for FY 1999 Chapter 70 funding. Take the difference between the FY 94 amount and the FY 99 amount. That gives us a relative measure of additional school aid under education reform for each district.

**The McDuffy Towns** Belchertown improved in English score rank and fell in Math score rank. Rockland moved up dramatically in both Math and English between 1992 and 1999. Carver stayed about the same. Some districts moved up and some moved down. There was no clear pattern in performance pre- and post-reform.

**The McDuffy Cities** Looking at the cities that were plaintiffs in McDuffy yields a different result. The ranks stayed pretty much where they were. Holyoke moved up from last in the state in the 1992 MEAP Reading test to 9th from last on the 1999 MCAS and moved up from last to 6th from last in Math between 1992 and 1999. Springfield moved up 7 ranks in English between 1992 and 1999. Other cities stayed where they had been in 1992 or dropped in rank. Even Springfield and Holyoke despite moving up in rank, still had 40% to 50% of their 4th grade students failing Math.

<b>McDuffy Plaintiff Cities: Grade 4</b>		
	<b>Ran MEAP 92 MATH</b>	<b>Rank MCAS 99 MATH</b>
LYNN	21	4
LOWELL	9	7
BROCKTON	7	9
SPRINGFIELD	6	8
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LAWRENCE	2	1
HOLYOKE	1	6

NOTE: A lower number indicates a lower rank

### **Grade 8**

**The McDuffy Towns** Rockland and Carver moved up dramatically between 1992 and 1999 in both Math and English/Reading. The other towns stayed about where they had been or dropped in rank. Again, there is no clear performance pattern pre- and post-reform in the middle class towns.

**The McDuffy Cities** No city moved up more than three ranks (Holyoke in Reading/English). Some dropped in rank. Again, as was the case for Grade 4, there is no pattern of improvement evident.

<b>McDuffy Plaintiff Cities Grade 8</b>	

	Rank MEAP 92 MATH	Rank MCAS 99 MATH
LYNN	8	8
LOWELL	7	5
BROCKTON	15	7
SPRINGFIELD	10	3
HOLYOKE	1	1
LAWRENCE	2	2

**NOTE: A lower number indicates a lower rank**

**Observation** This examination of rank movement is not proof of anything but it is interesting in that the communities that moved up after being given the additional reform funding were middle-class towns. The cities stayed where they were. (It may be that the cities have gotten better in terms of student performance although the ranks stayed about the same. Because of the differences in the tests, we cannot measure that. Future MCAS administrations will give us this information.)

**3 Making the grade: 'Passing' the state assessment test in 1992 and 1999** The following moves beyond the McDuffy plaintiffs and looks at the state generally. Another way to look at pre- and post-reform performance is to see how districts did in terms of "passing" performance in 1992 and 1999. Now in one sense there were no standards in 1992 but there was a definition of passing with the MEAP tests.

In 1992 passing was defined as scoring in the top two categories, proficient or advanced. MCAS had that same standard a year ago. Since then, passing MCAS has been defined as scoring Needs Improvement or better. If we include the equivalent 1992 MEAP category (Level 3) as passing MEAP, we bring these tests a bit closer together for comparisons. Under this definition, a student had to score in one of the top three categories to pass the tests.

**Demography and achievement** Students in districts that are demographically advantaged perform at much higher levels on academic achievement tests than do students from less advantaged communities. If the success of education reform is defined by having the overwhelming majority of students score at Needs Improvement or better, then education reform is already a success in many communities, particularly the Newtons and Needhams, and Hingham of the Commonwealth where positive demography and high test scores go hand-in-hand.

Our challenge is to improve schools in those communities where the students do not now pass MCAS. This includes some of Middle Massachusetts and the Challenged and Very Challenged districts of the state.

**Middle Massachusetts** Middle Massachusetts includes the 140 or so towns that are in the middle of the state's demography. These are Everytowns where many of our citizens live – places like Norwood, East Bridgewater, Agawam, Beverly, East Longmeadow, and Woburn.

(The following looks at Grade 8 student performance for both the 1992 MEAP and the 1999 MCAS. Grade 8 is used here because students in the class of Grade 8 in 1999 will be members of the class of 2003, the first class that has to pass Math and English MCAS to graduate. Math is used here because passing Math is the choke point for most students – they find it more difficult to pass Math than English.)

This chart illustrates the Grade 8 Math Fail rates for the communities that are in the middle of the state's demography. Results are given for the 1992 MEAP, the 1999 MCAS (regular education students), and the difference in Fail rates between 1992 (pre-reform) and 1999 seven years post-reform). In both cases, students who did not score at one of the top three categories are deemed to have failed the test.

### **Middle Massachusetts Student Performance, 1992 – 1999**

<b>GRADE 8</b>	<b>FAIL 92 MEAP MATH</b>	<b>FAIL 99 MCAS MATH</b>	<b>CHANGE 92 99 MATH</b>	<b>Per-Pupil Education Reform Money FY 99</b>
East Longmeadow	50	23	27	384
Grafton	43	18	25	807
Framingham	42	31	11	340
Bridgewater Raynham	35	22	13	2415
North Attleborough	42	24	18	701
Granby	54	13	41	819
Norton	48	20	28	1558
Leicester	33	26	7	1690
Norwood	44	17	27	342
Braintree	46	19	27	336
Tyngsborough	47	11	36	1495
Hatfield	44	18	26	414
Bellingham	50	31	19	954
Silver Lake	51	25	26	1239
Essex	42	33	9	1078
Auburn	41	18	23	330
Beverly	42	18	24	385
Old Rochester	38	34	4	286
Falmouth	38	35	3	331
East Bridgewater	40	35	5	1854
Marlborough	44	40	4	475
Woburn	59	21	38	344
Harwich	41	20	21	475
Barnstable	35	22	13	349
Belchertown	45	20	25	1641
Weymouth	46	29	17	672
Watertown	39	16	23	264
Triton	45	24	21	1535
Quabbin	50	21	29	1359
Amesbury	50	31	19	1325
Stoneham	45	9	36	319

<b>AVERAGE</b>	<b>44</b>	<b>23</b>	<b>21</b>	<b>855</b>
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These Middle Massachusetts school district improved an average of 21 percent between 1992 and 1999 on these statewide assessments. This means that, on average 21% fewer students failed the 1999 Math MCAS than failed the 1992 Math MEAP. These districts received an average of \$855 in per-pupil state education reform funding in FY 99.

### **The Very Challenged Districts**

The major cities and demographically distressed towns are the twenty-five communities at the lower end of the state's demography. These districts received substantial amounts of education reform funding as a result of the Education Reform Act of 1993. In fact, these twenty-five districts, which have 31% of the students in Massachusetts, received 55% of the education reform funding.

### **1992 - 1999 STUDENT PERFORMANCE: Very Challenged Communities**

<b>MATH FAIL 92 MEAP</b>	<b>MFAIL 99 MCAS</b>		<b>CHANGE 92-99</b>	<b>DEMOG</b>	<b>Per-Pupil Ed. Reform Aid FY99</b>
62	46	Malden	16	-0.98	970
53	33	Leominster	20	-1.00	2110
49	40	Gardner	9	-1.00	2016
65	48	Webster	17	-1.13	1018
55	51	North Adams	4	-1.17	1947
51	30	Ware	21	-1.22	1732
53	17	Ludlow	36	-1.31	1304
61	56	Everett	5	-1.46	1785
57	51	Taunton	6	-1.47	1606
57	53	Chicopee	4	-1.64	1757
57	34	Somerville	23	-1.65	1559
58	62	Brockton	-4	-1.71	2745
56	56	Revere	0	-1.72	2183
67	54	Worcester	13	-1.74	2330
39	42	Southbridge	-3	-1.79	1598
56	45	<b>AVERAGE</b>	11	-1.40	1777

## 1992 - 1999 STUDENT PERFORMANCE: The Most Challenged Communities

MATH FAIL 92 MEAP	MFAIL 99 MCAS		CHANGE 92-99	DEMOG	Per-Pupil Ed Reform Aid FY99
66	59	Fitchburg	7	-2.02	2269
68	66	Lynn	2	-2.22	2925
67	56	Boston	11	-2.31	1806
69	61	Fall River	8	-2.82	2262
68	72	Springfield	-4	-2.86	2466
67	64	Lowell	3	-2.88	3119
67	66	New Bedford	1	-2.96	2054
70	77	Holyoke	-7	-3.93	3124
78	61	Chelsea	17	-4.23	3318
74	75	Lawrence	-1	-4.81	3643
69	66	AVERAGE	4	-3.11	2699

*NOTE: Communities are displayed in order based on demography; Lawrence is the most demographically challenged community in the state.*

Looking at these Very Challenged districts in terms of changes in student performance between 1992 and 1999 shows a troubling pattern. While these communities generally had fewer students failing the MCAS Grade 8 Math test in 1999 than had failed the 1992 MEAP, the improvement was much less robust than was the case in Middle Massachusetts. The average improvement for Malden through Southbridge was 11 percent. The average improvement for the ten most disadvantaged communities (Fitchburg to Lawrence) was 4 percent. This compares to the 21% improvement in the Math 1992 MEAP – 1999 MCAS scores of Middle Massachusetts Communities listed previously.

This is unsettling for two reasons: 1) These communities received significant new state education reform yet have not improved as much as communities receiving much less aid; 2) These Very Challenged communities need to dramatically improve results in order to have substantial numbers of their students passing MCAS.

**Summary** We have new state aid going where it is needed – low spending communities. We have improvement in systems that did not have demographic disadvantage with which to contend. Places like Woburn and East Longmeadow and Rockland have made solid progress since 1992. Woburn and East Longmeadow have been mainstays of my Effective School Districts Reports, and Rockland moved up dramatically in rank over the seven years pre-and post reform. Rockland, as a McDuffy plaintiff that was underspending pre-reform, received significant new state aid and its improvement suggests that a shortage of money was indeed a barrier to school improvement in that district.

Brockton and Lawrence and the other cities did not move much between 1992 and 1999. That does not establish that these communities do not need more money; it does suggest that there is more work that needs to be done in urban schools than just increasing the per-pupil spending levels.

The fundamental problem that faces reformers in 2000 is the same problem that faced them in 1993, in 1985, and in 1965. Education reform has not fundamentally affected the way schools work. Whatever changes have occurred have been at the margins.

For those who live in advantaged communities and for many who live in Middle Massachusetts towns, that is fine. Based on 1999 MCAS results the schools are working fairly well. That is not the case in the disadvantaged communities that are home to over 30% of our population; those schools have not been able to overcome the demographic barriers that impede progress. Fail rates in some urban classrooms approach 90%.

This research and the results of the first two years of MCAS strongly suggests that schools in our cities and disadvantaged towns need to be fundamentally reorganized in order to be successful in educating their children. Increasing funding in the absence of such threshold change will not ensure a fair learning opportunity for all.