Acton-Boxborough 2012 MCAS Analysis

English Language Arts Concerns

Revised Feb. 5, 2013

Introduction

Background

There is no question that the Acton-Boxborough Regional School district is a high-performing school district that provides a quality education to our aggregate student population. AB's Mathematics MCAS performance is among the best in the state. However, student growth in English Language Arts is not at the same level. Available MCAS data for both student proficiency and student growth indicate that in certain areas our special education students are not performing to the same high standards as their peers. The Acton-Boxborough Special Education Parent Advisory Council (AB SpEd PAC) has focused our MCAS analysis on those subgroups of students within the AB school district who don't seem to be achieving at a level commensurate with the district's overall academic performance.

The PAC believes that MCAS data is a useful objective measure of student academic performance. The ability to compare Acton-Boxborough student performance with peer districts and to follow growth and achievement trends over multiple years provides valuable information. This year our MCAS analysis is informed by both the 2012 test data as well as discussions with the Junior High and High School principals, the Director of Pupil Services and Director of Curriculum. We appreciate the time Andrew Shen, Alixe Callen, Liza Huber and Deb Bookis spent with us to discuss MCAS performance across the AB regional school district.

This year we have also included a brief summary of best practices for improving outcomes for students with special needs. A Ph.D. student, Kalyani Krishnan, has volunteered some time to the AB SpEd PAC this fall as part of a graduate level class project. She has done a literature search of current best practices and we have included the highlights of her literature search in our report as a complement to the data analysis.

Recent Changes in Federal Student Growth and Achievement Standards

As a result of Massachusetts' successful application for a waiver to No Child Left Behind (NCLB) the criteria have changed this year for measuring student progress using MCAS. NCLB used to require that the achievement gap between all students be completely closed by the year 2014, i.e., the goal was that all students achieve MCAS Proficiency by 2014. Because so many schools, states and districts across the country were unable to meet this goal the Obama Administration offered waivers to states who accepted alternate student performance criteria.

The Massachusetts NCLB Waiver system has introduced a more complex, multi-factor measurement system, which includes a new metric called "proficiency gap." The new system continues to use CPI, the Composite Performance Index, as the key measure of student success. A CPI of 100 indicates proficiency or better in any given MCAS subject. The new "proficiency gap" metric is defined as the difference between the 2011 CPI performance of any group of students and a CPI score of 100, which indicates subject proficiency. The new measurement target is for schools to close the existing "proficiency gap" for each group of students by 50% by the year 2017. It is important to note that this system measures the progress of each group of students against itself over that time period not against other groups of students.

While the principal test for achieving a "Met Target" status for proficiency in the new system is described above, there are several exemptions that allow schools and districts to pass the "proficiency gap" test without actually doing so.

1. First, there is a modest 1.25-point "grace" amount that results in a school or district earning a "Met Target" grade if the actual CPI is within 1.25 points of the target. In 2012 ABRHS' special education subgroup passed the "proficiency gap" test by virtue of this 1.25-point "grace" allowance in both ELA and Science.
2. Second, there is an exemption to the "proficiency gap" test if the CPI of the group being measured is 90th percentile or better of all students in that group. Basically there is no requirement to demonstrate improvement if a school or district is in the top 10% in the state. RJ Grey's special education subgroup passed the 2012 "proficiency gap" test in ELA and Math because of this exemption. RJ Grey also qualified for the exemption in Science but didn't need it as students exceeded their CPI target.
3. Third, there is an exemption to the "performance gap" test if the group being measured is 80th percentile or better of ***all*** students in the relevant grade span. However, the DESE web site does not provide this data on the Accountability reports for each district and school.

The new NCLB Waiver system incorporates a Student Growth Percentile (SGP) test that requires each group of students to achieve a minimum SGP of 51-59 or show at least a ten-point improvement over the prior year to earn a "Met Target" grade. An SGP of 60 or higher or an improved SGP of more than 15 points from the previous year earns an "Above Target" mark. There is also an achievement exemption to the student growth target requirement. Schools that reduce the percentage of non-proficient students by 10% or more from the prior year automatically earn a "Met target" grade. Schools can also earn bonus points by increasing the percentage of students scoring "Advanced" or by reducing the percentage of students scoring "Warning/Failing." In 2012 R. J. Grey was below the SGP target in both English and Math while ABRHS missed the SGP target in ELA but was "Above Target" in Math. These results highlight our biggest concern this year – the lack of adequate student growth in English Language Arts particularly for special education students.

The new NCLB Waiver system also establishes and tracks a new subgroup of students called "High Needs," which includes students with disabilities, English Language Learners and low-income students. The creation of a High Needs group replaces the previous NCLB requirement to meet achievement targets for each individual subgroup of students. This larger single pool of students allows for the possibility that a subgroup of students could progress at a below target rate as long as students in the other subgroups were making sufficient progress to offset that groups low performance. We believe it will continue to be important for the district to monitor the performance of all subgroups to ensure that no subgroup is inadvertently left behind.

Another change as part of the NCLB waiver system is that Annual Yearly Progress (AYP) has been replaced by a new performance measurement called Progress and Performance Index (PPI). Annual PPI is a combined score that takes into account progress towards narrowing proficiency gaps, SGP and bonus points in English Language Arts, Mathematics and Science each year. The previous system tracked Annual Yearly Progress for Math and ELA independently. Cumulative PPI is a four-year average of the combined ELA, Math and Science scores with greater weight given to the more recent years' performance. For a group to be considered making progress, i.e., to be considered a Level 1 School, its Cumulative PPI must be 75 or higher.

2012 MCAS Performance Highlights

New Proficiency Gap Data

Using the new more complex, multi-factor measurement system defined by the Massachusetts NCLB Waiver system R. J. Grey achieved "Met Target" status for English, Math and Science in 2012. However, it achieved this status for special education students in English and Math because of the exemption for schools that perform in the top 10% across the state. The actual "proficiency gap" at R. J. Grey increased in both English and Math for special education students this year, which is deeply concerning to the SpEd PAC. R. J. Grey also qualified for the top 10% exemption in Science but didn't need to use it as students exceeded their CPI target in 2012.

Similarly, ABRHS achieved "Met Target" status for special education students in 2012 in English and Science as a result of the exemption for schools that are within 1.25% of their proficiency goal. However, the school did not meet its proficiency target in Mathematics for special education students. The actual "proficiency gap" at ABRHS increased in Math for special education students in 2012. Because ABRHS wasn't in the top 10% of schools for special education students in Mathematics or within 1.25% of it's performance goal, it didn't get a pass as R. J. Grey did.

In terms of Cumulative PPI in 2012 both ABRHS and R.J. Grey are in the top 10% of schools for "All Students" as are the three academic peer districts we reviewed (Concord-Carlisle, Lexington, and Westford). Not surprisingly, however, the district's Cumulative PPI for Students with Disabilities and the new High Needs subgroup are generally lower than our aggregate student performance. R. J. Grey's Cumulative PPI score for the High Needs subgroup was only 69. Since a Cumulative PPI of 75 or greater is required by DESE for All Students and the High Needs subgroup to be classified as making adequate progress, the junior high school did not meet this standard and is therefore classified as a Level 2 school this year along with 47% of schools across the state. However, ABRHS' Cumulative PPI score for the High Needs subgroup was 84, which indicates the school is on target for this population. Consequently, ABRHS is classified as a Level 1 school along with the top 32% of schools in the state. Given the district's high educational standards we would expect all of our schools to routinely be designated as Level 1 schools.

English Language Arts Student Growth Percentiles

The AB SpEd PAC is most concerned about special education students' 2012 ELA growth and achievement scores. Followed closely by the 40-point decline in the special education subgroup's 8th grade Math SGP from 2011 to 2012 (see Math Student Growth Percentiles on p. 4). In 2012 special education students received ELA Student Growth Percentiles of 37 for 7th grade, 47.5 for 8th grade and 47.5 for 10th grade. The 7th grade median SGP of 37 is down 11.5 points from the prior year's seventh grade performance and four points below the state median for this subgroup of students. Both the downward trend and absolute result are deeply concerning. The 7th grade special education SGP of 37 is significantly below the state average for this subgroup and the 8th and 10th grade scores are well below the three peer districts tracked for this subgroup (Concord-Carlisle, Lexington, and Westford). In addition, the tenth graders' SGP of 47.5 was a 12.5-point decline from the prior year's class and the lowest ELA SGP ever recorded by AB 10th grade special education students since Student Growth Percentiles became available in 2008. In order to be considered on track by DESE to close the proficiency gap 50% by 2017 Student Growth Percentiles for "High Needs" students need to be in the 51-59 range or better. Unfortunately, we did not meet that target this year for 7th, 8th or 10th grade special education students in English Language Arts. We suspect that reduced spending in special education over the last few years may be contributing to the decline in

performance for this group of students. (See a more detailed analysis of ELA Growth and Achievement on p. 9.)

The cumulative impact of below average student growth can be seen in the comparison of Acton-Boxborough and Westford's graduating Class of 2014. As sixth graders the Westford special education subgroup's percentage of Advanced and Proficient (or better) students greatly lagged Acton's. Four years later the results are reversed with the Westford Class of 2014 special education subgroup demonstrating materially higher MCAS achievement than AB's students. (See a more detailed discussion of this trend on pp. 11-12.)

While AB students in aggregate, "All Students," received ELA Student Growth Percentiles of 53 for 7th grade, 50 for 8thgrade and 44 for 10th grade, each of these scores is the lowest of the academic peer group we reviewed (Concord-Carlisle, Lexington, and Westford). The 10th grade ELA SGP score of 44 is 6 points below the state average and 20 points below Lexington and Westford. The 8th grade aggregate ELA score of 50 is right on the state average and 13-16 points below all three peer districts reviewed in this report. Acton-Boxborough's aggregate student growth is hovering around the statewide average, which we believe AB should easily and consistently exceed. We also note that 7th grade ELA SGP for All Students improved by 8 points in 2012 while special education students' SGP fell by 11.5 points, which suggests that the underlying cause for this recent decline may be specific to special education. Whereas, in 10th grade this year, special education students' ELA SGP decline of 12.5 points was mirrored by a decline of 8 points for All Students, which would suggest there may be a common underlying cause for the decline seen in all students from grades 8 to 10.

English Language Arts Traditional Achievement Gap Scores*

When you look at the traditional achievement gap between the aggregate student population and students with special needs in English Language Arts the achievement gap for 7th graders has actually increased by 5% from 2006 to 2012. Clearly this trend is headed in the wrong direction. For 8th graders the achievement gap has only closed by 3-4% over the last six years. For 10th graders the achievement gap has been consistently closing since 2007. However, since the achievement gap almost doubled between 2006 and 2007, we are only now in 2012 returning to the lower achievement gap we had in 2006.

- *It's important to note that our achievement gap charts don't reflect the true gap between regular education students and special education students. The gap is actually larger than shown because the aggregate student achievement numbers we've used include the lower special education subgroup performance. We have used the aggregate numbers because of the additional work it would take to tease out the actual data. We estimate that the actual achievement gap is probably 4-5% higher than shown in our charts.*

Mathematics Student Growth Percentiles

We want to highlight the exceptional 2012 10th grade Math SGP growth (SGP 74) for the special education subgroup as well as for all students (SGP 73). Both are exceptionally strong growth percentiles, lead all three of the peer districts we reviewed and are the highest SGP recorded to date at the high school. However, we are concerned about the dramatic 40.5-point decline in the special education subgroup's 8th grade Math SGP this year. In 2011 as 7th graders this group of students had a stellar SGP of 79 (following the implementation of specific interventions at R. J. Grey designed to improve student performance). Yet in 2012 the same group of 8th grade special education students only had an SGP of 38.5, which is almost 9 points below the state average and 19-27 points below the three peer districts we follow. Remember, in order to be considered on track

by DESE to close the proficiency gap 50% by 2017 Student Growth Percentiles for "High Needs" students need to be in the 51-59 range or better. Unfortunately, we did not meet that target for 8th grade special education students in Mathematics this year.

Mathematics Traditional Achievement Gap Scores*

When you look at the traditional achievement gap in Mathematics between the aggregate student population and students with special needs the achievement gap for 7th graders has actually increased by a couple of percentage points from 2006 to 2012. Again, clearly this trend is headed in the wrong direction. For 8th graders the achievement gap has only closed by a couple of percentage points over the last six years and currently stands at about 39%. For 10th graders, however, the achievement gap has closed by more than 10% over the last six years, which is a very positive trend.

Student Growth and Traditional Achievement Gap Summary

In speaking with district staff about the variables that can impact MCAS performance from year to year it was noted that larger class sizes in bulge years such as the class of 2014 reduce individual student-teacher time. This can have a negative impact on all learning but particularly writing performance, which requires significant individual teacher – student interaction/feedback for student growth. In addition, changes in the types of disabilities that comprise each year's student population can impact MCAS performance from year to year. It was noted that, for example, there are twice as many students in 7th and 8th grade this year with a primary diagnosis of Language Learning Disability than there were in previous years, which has potential implications for MCAS performance. Furthermore, at the high school English teachers are responsible for a huge number of students in a subject area that requires significant individual teacher student feedback. Currently each teacher has five sections of English, which district staff believes is an unsustainable caseload. By way of comparison teachers in surrounding communities only teach four English sections. We have a lot of turnover in the English department due to high caseloads and frequently lose staff to other districts for this reason.

The regional school district has recently implemented some positive changes to improve student outcomes including:

- Adding 7th and 8th grade grey block math support for students who need additional support.
- Piloting "Assistments" – an online math tutoring program that allows students and teachers to receive immediate feedback that will help inform classroom instruction.
- An emphasis on embedding writing across all curriculum areas to meet new Common Core requirements.
- A new emphasis on informational and persuasive writing in addition to narrative writing.
- A continued co-teaching model for substantially separate math classes consisting of one regular educator and one special educator in the classroom.
- Additional professional development for regular and special education staff.

We applaud the initiatives the district has under way to improve student outcomes. However, we think more needs to be done specifically for special education students to ensure we're on target to close the proficiency gap 50% by 2017. We respectfully submit that it might be beneficial for the district to:

- Do an in-depth MCAS analysis by learning strand in English Language Arts for special education students as well as review individual student performance to identify individual and group areas of weakness as was done in Mathematics so successfully two years ago.

- Establish a goal and track progress towards closing the proficiency gap for Students with Disabilities in the district's annual SMART Goals.
- Put together an action plan noting explicit interventions and timelines for increasing the growth and achievement of special education students over the next 5 years to ensure all of our students are on track to meet the new NCLB waiver requirements in 2017.
- Increase collaboration and planning time between regular and special education staff to annually review and modify curriculum and teaching strategies based on the incoming class' special education student needs.
- Introduce mandatory annual special education related professional development for regular education staff to increase teachers' tool kits of classroom strategies and techniques.

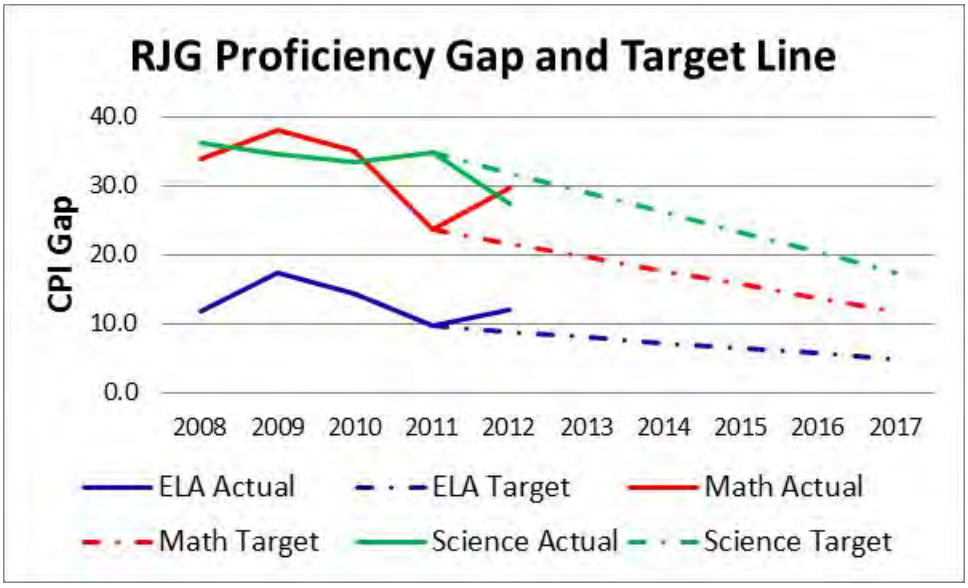
How Have Recent Special Education Budget Cuts Impacted Student Performance?

While it is impossible to provide direct evidence that the weaknesses we're seeing in special education student growth and achievement are due to reduced resources from recent budget cuts, we are not convinced the two trends are unrelated. Our recent AB Special Education Spending & Population Trends report noted that from 2004 to 2009 the total AB school budget outpaced the growth of special education spending by 10.4%. In the last two reported fiscal years, FY 2010 and FY 2011, Acton-Boxborough actually reduced total special education spending as well as spending per pupil for special education students from the FY 2009 level. We note that since FY 2011 the district has made additional special education budget cuts related to special education classroom assistants – in both the overall number of assistants and compensation (i.e. hiring part-time assistants to save health insurance costs). Also, since special education students are taught predominantly in typical classrooms, their progress is also affected positively or negatively by the same factors as typical students. We believe in the case of ninth and tenth grade English Language Arts all students' progress is constrained by inadequate staffing which imposes unusually high student caseloads on teaching staff. The high school added two new English teachers this academic year (2012-2013) and the administration intends to request another two positions for next year. We believe these additional resources will have a positive impact on ELA SGP for all students, including the special education subgroup, and therefore endorse this hiring as a priority.

Analysis of New Proficiency Gap Data

Proficiency Gap Data for R. J. Grey

The following charts show both historical data and a projected target line to meet the new NCLB waiver system requirement of closing the "proficiency gap" by 50% by 2017. As you can see from the chart below R. J. Grey only "met target" for special education students in 2012 in English and Math because of the exemption for schools that perform in the top 10% across the state. In reality the "proficiency gap" at R. J. Grey increased in both English and Math for special education students this year, which is troubling. Essentially, because of the exemptions in the new measurement system there is no requirement for high performing schools to show any improvement in student outcomes to meet the target. R. J. Grey also qualified for this exemption in Science but didn't need it as students exceeded their CPI target in 2012. The following chart shows proficiency gap data for special education students at R. J. Grey.

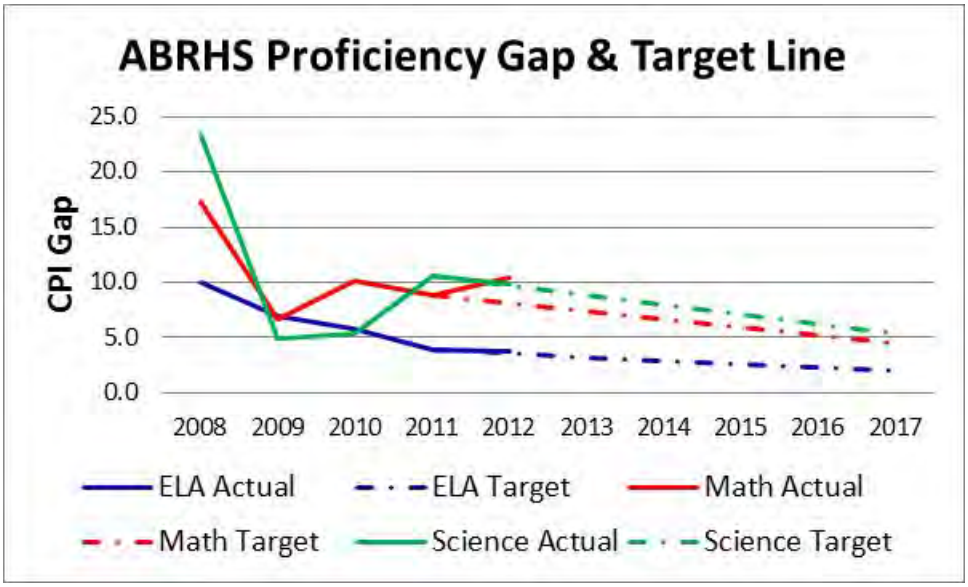


Is R. J. Grey Narrowing the Proficiency Gap for Special Education Students?

2012 Narrowing Gap?	ELA	Math	Science
On Target 50%?	No	No	Yes
Within 1.25 points?	No	No	n/a
Percentile in group	92	92	92
Exempt (90+)?	Yes	Yes	Yes
Percentile in aggregate	n/a	n/a	n/a
Exempt (80+)?	n/a	n/a	n/a
Met Target (or better)	PASS	PASS	PASS

Proficiency Gap Data for ABRHS

The following charts show both historical data and a projected target line to meet the new NCLB waiver system requirement of closing the "proficiency gap" by 50% by 2017. As you can see from the chart below ABRHS "met target" for special education students in 2012 in English and Science because of the exemption for schools that are within 1.25% of their goal. However, the school did not meet its target for Mathematics. In fact, the "proficiency gap" at ABRHS actually increased in Math for special education students this year. Because ABRHS wasn't in the top 10% of schools for special education students in Mathematics or within 1.25% of it's goal, it didn't get a pass as R. J. Grey did. The following chart shows proficiency gap data for ABRHS.



Is ABRHS Narrowing the Proficiency Gap for Special Education Students?

2012 Narrowing Gap?	ELA	Math	Science
On Target 50%?	No	No	No
Within 1.25 points?	Yes	No	Yes
Percentile in group	83	86	91
Exempt (90+)?	No	No	Yes
Percentile in aggregate	n/a	n/a	n/a
Exempt (80+)?	n/a	n/a	n/a
Met Target (or better)	PASS	FAIL	PASS

New Performance Gap Measurement Summary

We think it is likely that the new system will greatly reduce the number of schools and districts that are classified as not meeting NCLB standards. The most serious classifications (Levels 3, 4 and 5) will now be limited to the bottom 20% of schools unlike the old system where R. J. Grey was only a year away from the lowest level designation. The following NCLB waiver changes are responsible for this shift:

a) The creation of a single High Needs group consisting of special education, low income, and English language learners (unduplicated) instead of three separate groups any one of which could result in a school's failure to achieve Annual Yearly Progress "AYP."

b) The creation of a single pass/fail test that includes both ELA and Math, as opposed to the failure to achieve targets in either one resulting in failure to meet AYP for the school.

c) The significantly reduced target of a 50% reduction of "proficiency gap" over six years, alternative ways to meet each test, and "extra credit" awarded for material improvements in the Warning/Failing and Advanced achievement levels.

d) The adoption of a weighted average of four years of PPI data to create a composite PPI, which will smooth out changes over time.

Overall we are pleased that the new assessment system is designed to ensure that good schools where students demonstrate high achievement relative to state averages are no longer classified in the same category as failing schools because those schools have trouble improving high marks year after year. We are also pleased that student growth is now a specific criteria for assessment as we have advocated since the metric became available (SGP of 51-59 needed to be considered "on target" to close the proficiency gap 50% by 2017. However, on the other hand, we are concerned that some of the exemptions in the new measurement system no longer provide an incentive for high performing schools/districts like AB to show any improvement in student outcomes to meet annual MCAS performance targets. We hope that the district will continue to strive to meet its mission "to prepare **all** students to attain their full potential as life-long learners, critical thinkers and productive citizens of our diverse community and global society" by making a concerted effort to improve the academic progress of special education students.

Analysis of English Language Arts MCAS Performance

Special Education ELA Growth and Achievement is a Cause for Significant Concern

Although there are areas of potential weakness in both the English Language Arts and Mathematics subjects, the special education subgroup's academic growth and achievement in English Language Arts is the most troubling of the AB district's MCAS results in 2012. In none of the three grades tested (7^{th}, 8^{th} and 10^{th} grade) did this subgroup of students achieve a median SGP of 50 or above. To be considered "on track" by the DESE to close the proficiency gap this subgroup needs to achieve a minimum SGP of 51-59. Furthermore, Acton-Boxborough's special education students had the lowest ELA SGP scores in 7^{th}, 8^{th} and 10^{th} grade compared to the three peer districts we reviewed (Concord-Carlisle, Lexington and Westford). Except for Westford's seventh grade special education subgroup, all three of the peer districts' special education subgroups had an SGP above 50 and as high as 72.5.

Of particular concern is the 7th grade special education students' ELA SGP of 37, which is below the state average and in our view well below acceptable for a district that is delivering an excellent education to other students. The seventh graders' SGP is 11.5 points below the preceding year's 7^{th} grade class and eight points below the same students' sixth grade student growth percentile (Acton only). We also note that the aggregate ELA Student Growth Percentile for 7th grade students increased eight points in 2012 while special education students' SGP fell 11.5 points. Typically SGP changes for student subgroups mirror aggregate student changes from year to year. This makes sense since 80+% of special education students are taught in the general education classroom with typical peers. When the SGP trends diverge for the two groups of students we suspect changes in special education programs and services may be the underlying cause of the negative trend for that subgroup.

In 10th grade special education students' ELA SGP declined 12.5 points in 2012 from a very good 60 in 2011 to a middling 47.5 in 2012. Although this is only a one-year trend, it is a sharp decline and below the minimum SGP of 51-59 required by the DESE to be considered "on track" to close the achievement gap 50% by 2017. We also note that the aggregate 10^{th} grade ELA SGP declined eight points to 44, which is 6 points below the state average. Since both the aggregate class and the subgroup's growth moved in the same direction, it seems more likely that there is a common underlying cause for the decline seen for all students from 8^{th} to 10^{th} grade.

Low 10th Grade ELA Performance May Be Due to Excessive Teaching Loads

In our conversation with district administrators we discussed one likely underlying cause of the poor ELA growth and achievement – inadequate English teacher staffing. Administrators shared that changes due to the Common Core now require writing across all curriculum areas as well as the ability to respond to persuasive, informational or narrative text prompts in MCAS. It seems logical to us that writing instruction is particularly time intensive because it requires significant teacher – student interaction/feedback for student growth. Consequently an acceptable student load for an English teacher may be lower than other subjects. As noted earlier our heavier student loads than surrounding districts have resulted in high turnover within the AB English department. The three peer districts we reviewed are demonstrating materially better student growth in ELA than we are for both special education students and the aggregate student population.

English Language Arts Chart

The English Language Arts chart below shows Student Growth Percentiles by grade and class year for all students and for the special education subgroup. It also shows achievement and progress information including % Proficient, % Advanced and CPI for both groups. Aggregate student performance data is found on the left side of the page and special education subgroup performance is found on the right side of the page.

Acton-Boxborough School District

ENGLISH LANGUAGE ARTS

Student Growth Percentile by Grade and Class Year

All Students

	Grade*						
Class Year	Fourth	Fifth	Sixth	Seventh	Eighth	Tenth	Average
2011						45	45.0
2012					37	50	43.5
2013				56	38	52	48.7
2014			59	52.5	47	44	50.6
2015		59.5	56.5	51	46		53.3
2016	59	59	58	45	50		54.2
2017	59	54	53	53			54.8
2018	60	60	59				59.7
2019	53	55					54.0
2020	54						54.0
Average	57.0	57.5	57.1	51.5	43.6	47.8	51.8

Special Education

	Grade*						
Class Year	Fourth	Fifth	Sixth	Seventh	Eighth	Tenth	Average
2011						48	48.0
2012					36.5	50	43.3
2013				48.5	30	60	46.2
2014			63	43	51	47.5	51.1
2015		51	56	34	38.5		44.9
2016	48	52.5	49	48.5	47.5		49.1
2017	41	50	45	37			43.3
2018	45	55.5	53				51.2
2019	34	54					44.0
2020	35.5						35.5
Average	40.7	52.6	53.2	42.2	40.7	51.4	45.6

Achievement and Progress Summary

	SGP			% Advanced		
Class Year	Seventh	Eighth	Tenth	Seventh	Eighth	Tenth
A - B	53	50	44	31%	36%	63%
Concord	56	65.5	51	37%	52%	68%
Lexington	60	64.5	65	46%	54%	76%
Westford	57	63	66	39%	48%	75%
State	50	50	50	15%	18%	37%

	% Proficiency			CPI		
Class Year	Seventh	Eighth	Tenth	Seventh	Eighth	Tenth
A - B	90%	95%	96%	96.1	98.5	99.1
Concord	89%	96%	98%	95.3	98.5	98.9
Lexington	93%	97%	99%	97.9	99.0	99.6
Westford	92%	96%	99%	97.6	99.0	99.8
State	71%	81%	88%	88.1	91.8	95.8

	SGP			% Advanced		
Class Year	Seventh	Eighth	Tenth	Seventh	Eighth	Tenth
A - B	37	47.5	47.5	2%	1%	15%
Concord	53	51	56	15%	6%	23%
Lexington	51.5	70.5	58	8%	8%	31%
Westford	39	72.5	62.5	5%	2%	29%
State	41	46	45	1%	2%	8%

	% Proficiency			CPI		
Class Year	Seventh	Eighth	Tenth	Seventh	Eighth	Tenth
A - B	55%	72%	78%	81.5	91.3	94.8
Concord	59%	80%	86%	83.8	90.7	92.4
Lexington	63%	83%	94%	87.7	94.3	97.6
Westford	33%	70%	89%	80.0	92.6	98.8
State	29%	42%	60%	67.7	74.5	85.8

= 2012 MCAS Results

* Data for Grades 4, 5, and 6 is Acton district only. Boxborough is not included.

Chronic Low English Language Arts Student Growth Has Consequences

Unfortunately, the relatively weak ELA student growth among AB special education students is not a new phenomenon. In the five years that SGP data has been available for the 7th and 8th grades the special education subgroup's average ELA SGP median has been 42.2 and 40.7 respectively. That's roughly the state median average for the special education subgroup but below what AB's peers have managed and, in our view, well below the standards the district has set for itself. The 10th grade ELA SGP average for the special education subgroup has been a bit better at 51.4. This is better than the aggregate SGP average of 47.8 but again is lower than all three peer districts we reviewed.

We are concerned about the long-term consequences of persistently low ELA growth scores on student achievement. The table below illustrates the experience of the Class of 2014's special education subgroup. As sixth graders in 2008 Acton's[1] subgroup showed 12% students as Advanced, 64% Proficient or above. Westford's equivalent numbers were lower. As 7th graders the Westford group took off in ELA growth (SGP 69) and improved proficiency significantly while the AB group's SGP of 43 resulted in a decline in student proficiency. In the 8th grade the AB group improved its SGP and overall proficiency was on par with Westford, which had a very good growth year. Over the next two years the Westford group grew at a strong 62.5 SGP, which resulted in 29% of the district's students achieving Advanced status and 89% achieving Proficiency. In comparison the AB subgroup's Advanced percentage was just better than half of Westford's at 15% and AB's Proficiency percentage lagged Westford's by 11% (Westford 89% vs. AB 78%).

Class of 2014 - Special Education Subgroup

Test Year:	2008	2009	2010	2012
Grade:	Sixth	Seventh	Eighth	Tenth
Westford				
SGP	46	69	61	62.5
% Advanced	2%	4%	6%	29%
% Proficient	48%	67%	68%	89%
A-B				
SGP	63	43	51	47.5
% Advanced	10%	4%	3%	15%
% Proficient	68%	53%	69%	78%

The adverse impact of multiple years of subpar growth is not just felt by the special education subgroup but by all students. In the 2012 test AB had the lowest percentage of Advanced achievement in the 7th, 8th, and 10th grades among the peer districts we reviewed (Concord-Carlisle, Lexington and Westford) and was also nominally the lowest in overall Proficiency in the 8th and 10th grades.

[1] Sixth grade SGP data is Acton only. Boxborough did not report subgroup SGP in 2008. Sixth grade Proficiency and Advanced percentages are combined Acton and Boxborough districts.

Slowing ELA Growth for the Classes of 2014 and 2015

Another way to evaluate trends is to follow the same cohort of students from grade-to-grade. The English Language Arts and Mathematics tables that follow allow readers to do that. Looking at the data in this way shows another troubling trend. Aggregate student growth (all students) in English Language Arts for the Classes of 2014 and 2015 have declined every year since sixth grade (Acton only). The Class of 2014's ELA SGP for 6th, 7th, 8th, and 10th grades was 59, 52.5, 47, and 44 respectively. The Class of 2015's ELA SGP (6th through 8th grade) was 56.5, 51 and 46. In our meeting administrators noted that the Class of 2014 is unusually large (525 students took the MCAS last year). Consequently, this class has suffered from unusually high student – teacher ratios over their academic career.

Underlying Cause(s) of Low ELA Growth at the Junior High Unclear

Over the last five years the 7th grade English Language Arts median SGP for the special education subgroup has ranged from 34 to 48.5 and averaged 42.2. This past year the 2012 7th grade ELA SGP was only 37, down 11.5 points from the prior year's class. For the aggregate student population the 7th grade median SGP has ranged from 45 to 56 with an average of 51.5. In 2012 the aggregate student population's 7th grade ELA SGP was 53, which represents an increase of 8 points over the previous year's class.

The divergence in growth between the aggregate 7th grade student performance (increase) and special education student performance (decrease) suggests that the underlying cause(s) of the subgroup's poor 2012 SGP performance may be specific to special education students. In 2012 the 8th grade special education subgroup's ELA SGP of 47.5 represented a nine-point increase from the prior year. The aggregate student population also increased its 2012 ELA SGP by four points to achieve an SGP of 50, which is the state median. However, while the aggregate student 8th grade ELA SGP has increased every year since the first year SGP was calculated in 2008, special education student growth has never moved in the same direction (up or down) two years in a row. This performance trend seems to support the idea that at least some of the underlying factors affecting growth in the special education subgroup are different from the aggregate student population.

Administrators suggested that one underlying cause could be a different distribution of disabilities within the subgroup. For example, in 2012 there were twice as many 7th and 8th graders with Language Learning disabilities than in the previous year. District staff also noted that some students have motivation issues when it comes to MCAS performance. Consequently, increasing students' motivation to perform well would have a positive impact on student growth and achievement scores. Administrators also indicated that increasing efforts to identify which "ELA strands" special education students struggle with and modifying curriculum and teaching strategies accordingly would improve student outcomes for the special education subgroup.

Mathematics MCAS Performance

Student Performance in Mathematics is a District Strength

We want to highlight the exceptional 2012 10th grade Math SGP growth (SGP 74) for the special education subgroup as well as for all students (SGP 73). Both are exceptionally strong growth percentiles, lead all three of the peer districts we reviewed and are the highest SGP recorded to date at the high school. The special education subgroup's student growth was ninth best of 163 districts

across the state reporting Math SGP for special education students. We also note that the 2012 Math SGP for all 7th grade students as well as the special education subgroup was 63, which is a very good performance and the best growth recorded among the three peer districts we reviewed. However, it did represent a 10 and 16-point decline for all students and the special education subgroup respectively from the previous year's exceptional growth of 73 and 79.

Eighth Grade Special Education Math Growth is Worrisome

There is one area of Math MCAS performance that is concerning to us. The 8th grade Math Student Growth Percentile for the special education subgroup was only 38.5 in 2012. This is substantially below the peer districts we reviewed and 7.5 points below the state average. As 7th graders this group of students earned a 79 SGP, which we attribute to the high-profile intervention program undertaken by Dr. Mills in FY 2011, so we know these students are capable of learning at a higher rate. The 8th grade subgroup performance of 38.5 is also 16.5 points below the previous years 8th grade special education student growth of 55. When we look at the aggregate student population over the last five years the 8th grade aggregate SGP has hovered near 50, which is the state average. This is 13-15 points below each of the three academic peer districts we have tracked over this period of time.

In our discussion with district staff Administrators shared that they have introduced a new 8th grade math tutoring opportunity during grey block for all students who need math support. There is also a second Academic Resource Center at the junior high this year to meet student need for extra support. All teachers are being encouraged to set professional development goals for themselves in math this year. In regards to special education students specifically, special education teachers are focusing on teaching students to use the math reference sheets they have available to them during MCAS. Another intervention being piloted this year is an online tutoring program called "Assistments" that allows students and teachers to receive immediate feedback to help inform classroom instruction. Staff anticipates piloting the program in learning centers and possibly at home as part of homework for those students with internet access.

Mathematics Chart

The Mathematics chart below shows Student Growth Percentiles by grade and class year for all students and for the special education subgroup. It also shows achievement and progress information including % Proficient, % Advanced and CPI for both groups. Aggregate student performance data is found on the left side of the chart and special education subgroup performance is found on the right side of the chart.

Acton-Boxborough School District

MATHEMATICS

Student Growth Percentile by Grade and Class Year

All Students

	Grade						
Class Year	Fourth	Fifth	Sixth	Seventh	Eighth	Tenth	Average
2011						54.5	54.5
2012					51	63	57.0
2013				60	44	65	56.3
2014			63	44	53	73	58.3
2015		61	67.5	58	53		59.9
2016	65	58	68	73	50		62.8
2017	66	59	72	63			65.0
2018	60	66	68				64.7
2019	64	65.5					64.8
2020	59						59.0
Average	63.8	61.9	67.7	59.6	50.2	63.9	61.2

Special Education

	Grade						
Class Year	Fourth	Fifth	Sixth	Seventh	Eighth	Tenth	Average
2011						46	46.0
2012					49	49	49.0
2013				45	42	61.5	49.5
2014			53	32	49	74	52.0
2015		55	63.5	50	55		55.9
2016	53.5	47	47	79	38.5		53.0
2017	51	37.5	65	63			54.1
2018	52	57	58				55.7
2019	50.5	48					49.3
2020	32.5						32.5
Average	51.8	48.9	57.3	53.8	46.7	57.6	52.7

Achievement and Progress Summary

	SGP			% Advanced		
Class Year	Seventh	Eighth	Tenth	Seventh	Eighth	Tenth
A - B	63	50	73	49%	53%	86%
Concord	56	65.5	51	43%	49%	77%
Lexington	60	64.5	65	58%	60%	85%
Westford	57	63	66	51%	57%	84%
State	50	50	50	20%	18%	37%

	SGP			% Advanced		
Class Year	Seventh	Eighth	Tenth	Seventh	Eighth	Tenth
A - B	63	38.5	74	9%	9%	39%
Concord	60	57.5	53	13%	17%	27%
Lexington	53.5	65	61.5	20%	18%	44%
Westford	55	63	65	7%	15%	36%
State	44	47	47	3%	3%	13%

	% Proficiency			CPI		
Class Year	Seventh	Eighth	Tenth	Seventh	Eighth	Tenth
A - B	82%	84%	94%	91.9	93.1	97.9
Concord	80%	76%	92%	92.4	90.7	96.2
Lexington	87%	87%	95%	94.5	94.6	97.9
Westford	85%	89%	96%	94.6	95.9	99.0
State	51%	48%	65%	75.4	75.5	90.0

	% Proficiency			CPI		
Class Year	Seventh	Eighth	Tenth	Seventh	Eighth	Tenth
A - B	32%	45%	68%	66.0	73.4	88.1
Concord	49%	37%	57%	78.3	69.3	77.8
Lexington	40%	47%	77%	70.7	78.2	89.3
Westford	24%	36%	81%	67.9	75.5	95.8
State	14%	14%	41%	49.4	48.9	71.4

= 2012 MCAS Results

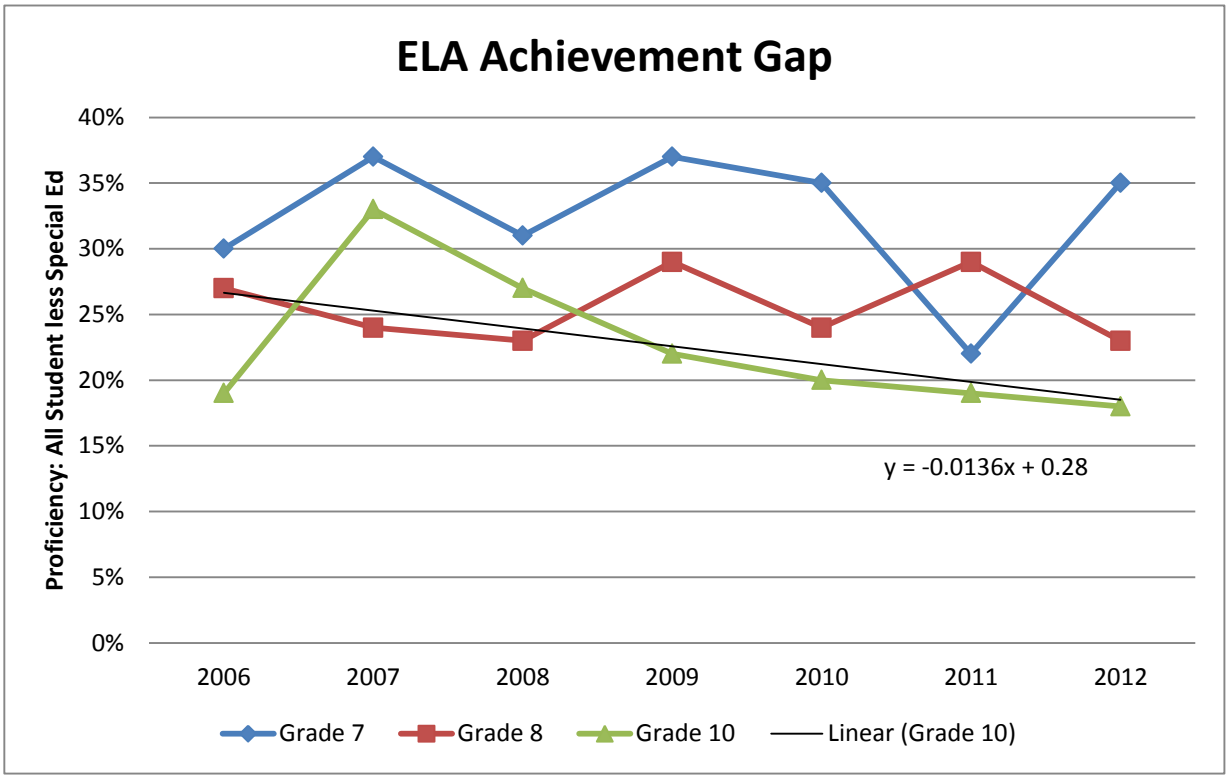
* Data for Grades 4, 5, and 6 is Acton district only. Boxborough is not included.

Traditional Achievement Gap Data

The following charts present the historical achievement gap trends between the aggregate student population and the special education student subgroup for English Language Arts and Mathematics from 2006 to 20012.

English Language Arts Achievement Scores*

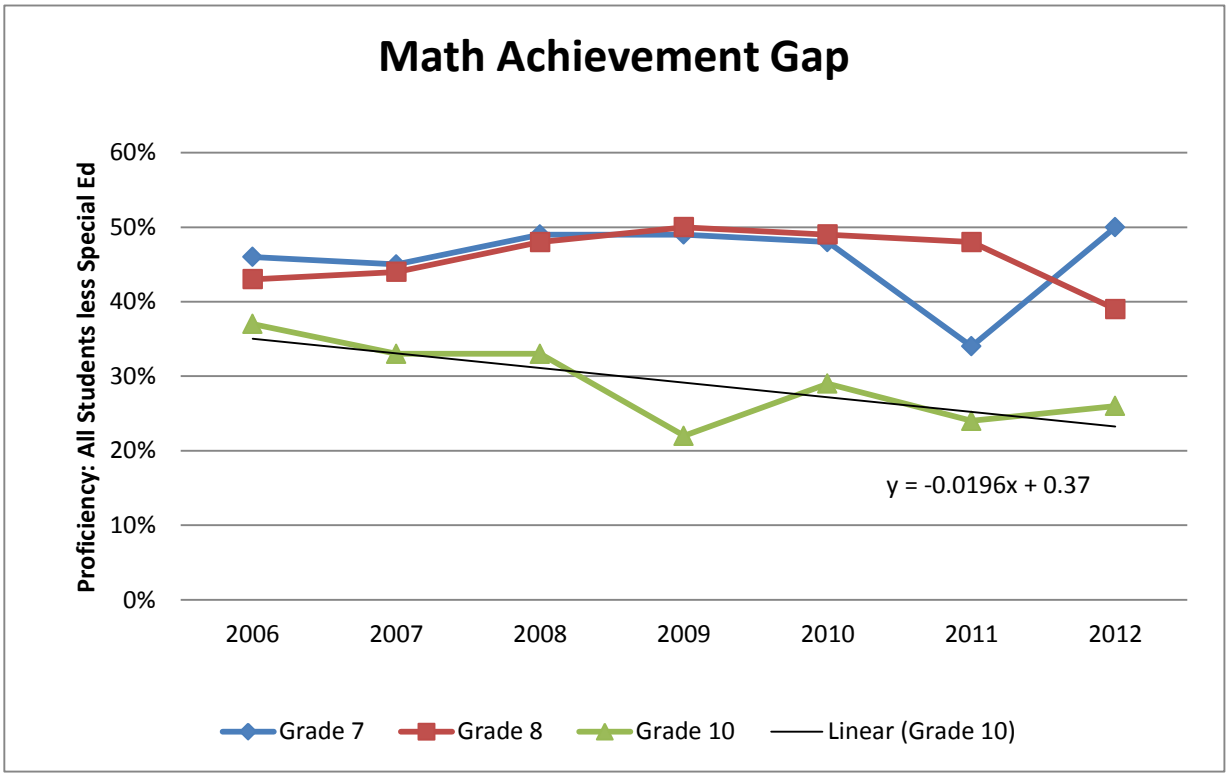
When you look at the achievement gap in English Language Arts between the aggregate student population and students with special needs the achievement gap for 7th graders has actually increased by 5% from 2006 to 2012. Clearly this trend is headed in the wrong direction. For 8th graders the achievement gap has only closed by 3-4% over the last six years. The achievement gap stands at about 23% in 2012. For 10th graders the achievement gap has been consistently closing since 2007. However, the achievement gap almost doubled between 2006 and 2007 so we are only now in 2012 returning to the lower achievement gap we started with in 2006. The following chart shows the ELA achievement gap between the aggregate student population and special education students from 2006-2012.



* *It's important to note that our achievement gap charts don't reflect the true gap between regular education students and special education students. The gap is actually larger than shown because the aggregate student achievement numbers we've used include the lower special education subgroup performance. We have used the aggregate numbers because of the additional work it would take to tease out the actual data. We estimate that the actual achievement gap is probably 4-5% higher than shown in our charts.*

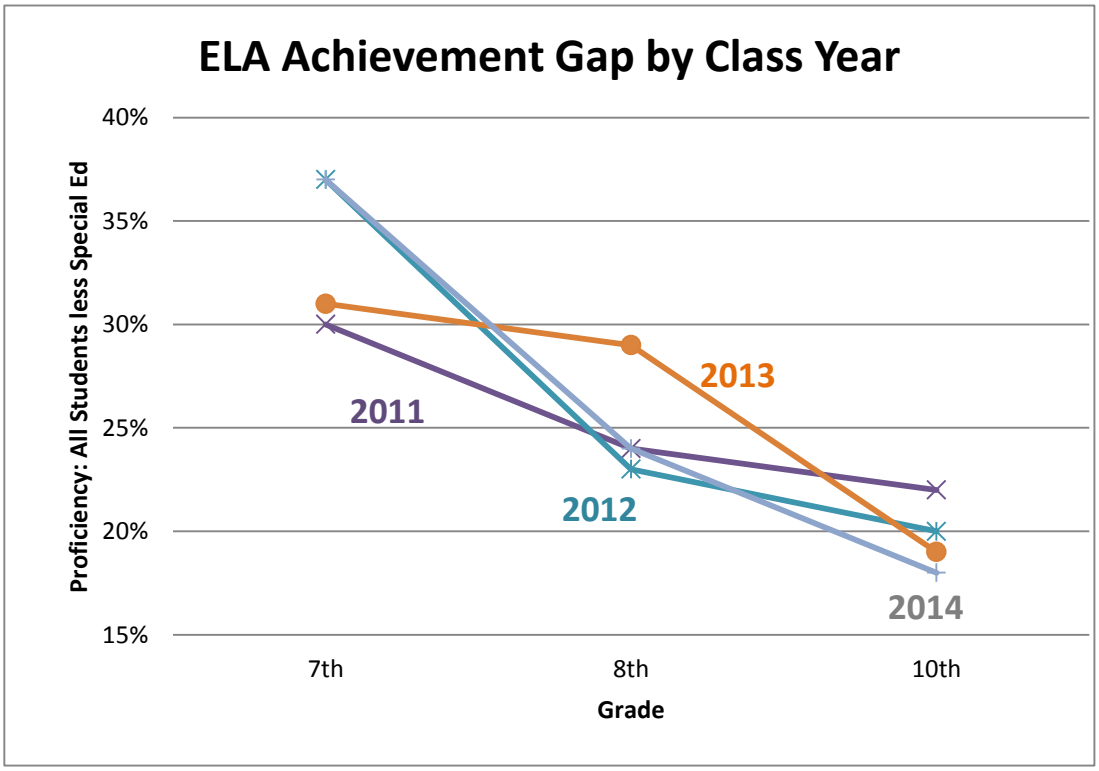
Mathematics Achievement Scores*

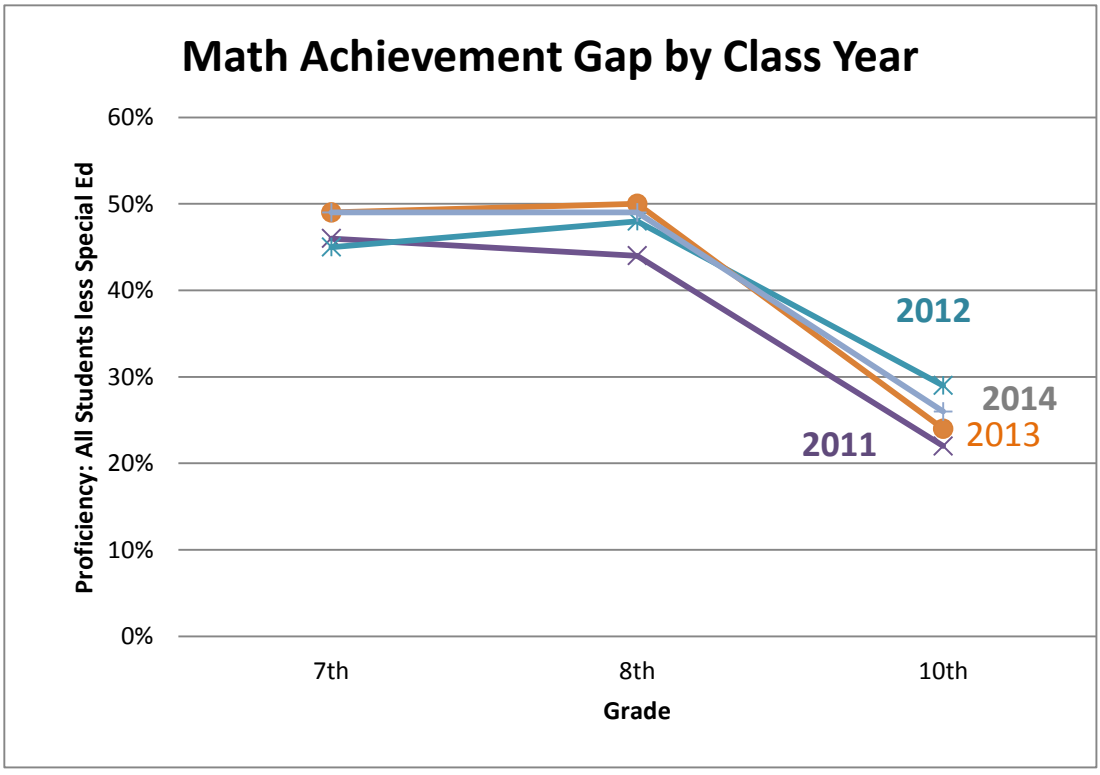
When you look at the achievement gap in Mathematics between the aggregate student population and students with special needs the achievement gap for 7th graders has actually increased by a couple of percentage points from 2006 to 2012. Again, clearly this trend is headed in the wrong direction. For 8th graders the achievement gap has only closed by a couple of percentage points over the last six years and currently stands at about 39% in 2012,. For 10th graders, however, the achievement gap has closed by more than 10% over the last six years. This is a very positive trend. The following chart shows the Mathematics achievement gap between the aggregate student population and special education students from 2006-2012.



Achievement Gap Data by Class Year*

We thought it would also be interesting to look at achievement gap data by graduating class year, which is provided in the following two charts. While it is tempting to say these charts suggest that we're doing a terrific job closing the achievement gap between regular and special education students following the same cohort year to year, we know from looking at ELA SGP data that this likely does not explain the majority of the decrease in achievement gap shown. While we are making some progress year to year we suspect that the following graphs principally highlight how much easier the 10th grade MCAS test is than the test administered in earlier grades.


ELA Achievement Gap by Class Year
Proficiency: All Students less Special Ed
40%
35%
30%
25%
20%
15%
2011
2013
2012
2014
7th
8th
10th
Grade


Math Achievement Gap by Class Year
Proficiency: All Students less Special Ed
60%
50%
40%
30%
20%
10%
0%
2012
2014
2013
2011
7th
8th
10th
Grade

Summary of Best Practices Literature Search

The widespread acceptance of inclusion for special education students has highlighted the importance of creating appropriate learning opportunities for all students in the general education classroom. When a continuum of services, including a pullout model is available, strengthening of instruction in the general education classroom continues to be important to reduce referrals to special education, thus insuring against large caseloads, as well as to avoid fragmentation in the learning experience of special education students. These practices are also consistent with the mandate for placing students in the Least Restrictive Environment, as defined by IDEA and IDIEA. A review of the research literature and 'best practices' indicates that this can be done in several ways:

1. Hiring dual certified teachers who are able to address the needs of diverse students in a seamless and integrated fashion.
2. Increasing the regular education teacher's capacity to reach a wide range of students through professional development that addresses the following:
    a. An understanding of diverse learning styles
    b. Development of a repertoire of effective techniques for differentiating instruction
    c. Development of appropriate skills and strategies for infusing strategies throughout the curriculum
    d. An understanding of effective behavior management techniques and
    e. An understanding of the link between emotions, behavior and learning
3. Creating collaborative or co-teaching teams among the staff.
    a. In the short-term, this provides diverse students in a single classroom with a general education teacher who is the 'content specialist' and a special educator who is the 'process specialist.'
    b. In the long-term, when properly managed, a well-designed collaborative teaching model results in a staff where each individual teacher has a repertoire of content and process-related strategies so that each individual teacher has the capacity to address multiple needs, almost as if each teacher is 'dual certified.'
4. Making full use of other resources including:
    a. Technology
    b. Para-professionals
    c. Peer-tutoring
    d. Home-school communication and collaboration
    e. Flexible groupings of students and non-categorical supports that allow students to move between groupings on an as-needed basis
5. Proactively planning for the uniqueness of a particular cohort of students as it moves through the grades.
    a. Use interdisciplinary teams including representatives from regular education, special education, curriculum, and guidance.
    b. Meet once or twice a year to assess the progress and needs of high-needs and unique populations as the curriculum progresses.
    c. Disseminate the information through a succinct report that targets the specific needs of these populations as they become evident, specifies strategies that are working well, and anticipates the needs of these populations in the future.
    d. Use the same interdisciplinary, proactive mindset at team meetings for individual students and when negotiating major transitions within the school system (e.g. entry into upper elementary, middle school, high school, post-secondary education).

e. When a cohort with a 'bubble population' is making it's way through the system, allocate sufficient time to plan proactively for this population so that by the time teachers receive these students, they are thoroughly familiar with their needs and the plan/program for addressing those needs.

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