Report on Establishing Baseline Measures to Define Achievement Gaps in the Student Population of the Lincoln Public Schools

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I. Introduction

As a diverse public school system, our mission is to educate all of our students. We are committed to providing quality learning experiences and support for all students to make progress and achieve at high levels. Achievement gaps are a fact that the Lincoln Public Schools simply cannot afford to accept—morally, economically or socially. We believe that all children can learn to the same high levels, so we must confront and change those things that are holding groups of students back and we must develop programming to ensure that every student reach his/her potential.

Evidence of achievement gaps has persisted for several years and various efforts have been made to address the needs of students who have not achieved at a level commensurate with that of grade-level peers in their schools. Yet, we have not had enough precision about what gaps actually exist nor have we had an adequate system to monitor progress in order to determine the effect of the district's instruction to narrow these gaps. This year, one of our district goals has been to define achievement gaps more precisely and to focus on strategies to narrow those gaps. This goal is also reflected in school improvement plans, developed by School Councils in each building.

For the purposes of this report, we have decided to focus on our most pressing concern: the disparity of achievement between groups of students defined by race/ethnicity. In particular, we have chosen to focus on the achievement of students in three groups: 1) Caucasian (White), 2) Asian (and Asian/Caucasian), and 3) African-American/Black and Hispanic. *(Note: students are placed in these groups by their own self-report at the time of testing).* At a later date, we intend to examine differences of achievement that may exist between students who belong to other sub-groups, such as "Low-Income" (defined by eligibility for free and reduced lunch) and "Students with Disabilities" (defined by having an active Individualized Education Program, the "IEP"). The choice of focusing on the three groups defined by race/ethnicity is supported by the national and state literature that describes patterns of differences in achievement between these groups.[1] We must determine what the data in our own district reveal about our students' achievement and chart a course that will address specific needs.

Our renewed efforts to measure, describe, and address achievement gaps in the district are supported by progress in the past two years in using data about student performance to inform instruction and monitor our curriculum programs. Teachers have become more skilled at employing a data process to examine evidence of achievement, draw conclusions about what is needed, and develop plans to address identified student needs in a timely, specific, and measurable way. We have also made progress in formulating a plan and a system for collecting local data from common assessments in mathematics, reading, and writing. This system - in development this year - is crucial to building our capacity to cross-reference state testing results with local performance results in order to gain a more precise and balanced determination of achievement gaps, not based solely on MCAS results.

This report establishes baseline information about our students' performance on several measures and offers some discussion of the findings about groups of students defined by race/ethnicity. The tables and graphs presented here assist us in quantifying achievement gaps; the information establishes a baseline against which data about future performance can be measured. We have investigated three categories of data in order to determine the nature of

[1] See: Murphy, Joseph, "Closing Achievement Gaps: Lessons from the Last 15 Years," Kappan, November, 2009, pp. 8-12 and Ferguson, Ronald, Addressing Racial Disparities in High-Achieving Suburban Schools, available: ncrel.org/policy/pubs.

achievement gaps: MCAS results, local common assessment results, and report card grades (6-8 grade span only).

The information about achievement is organized, most often, in grade clusters for students in grades 3 - 5 and 6 - 8. Because our school district is small, presenting data in these grade clusters provides sufficient scale to ensure the validity of our analysis and to safeguard student identities. Since the data is drawn from several different measures, each of which is administered at different times of the year, grade clusters are generally the same each time. Caution should be used when comparing performance data from different sources. While some members of the cohort group change, notably within our military population, we are confident in using these data in a generalized manner to measure achievement gaps. We will reexamine the same sets of data in future years to determine if the district's programs and interventions are having the desired result: narrowing achievement gaps between subgroups of students who do not achieve at the level of the whole group.

The final section of this report will describe current efforts and next steps at the district level and by campus. Our commitment to narrowing achievement gaps will continue through this year and it will be part of our goal setting process for 2011-12.

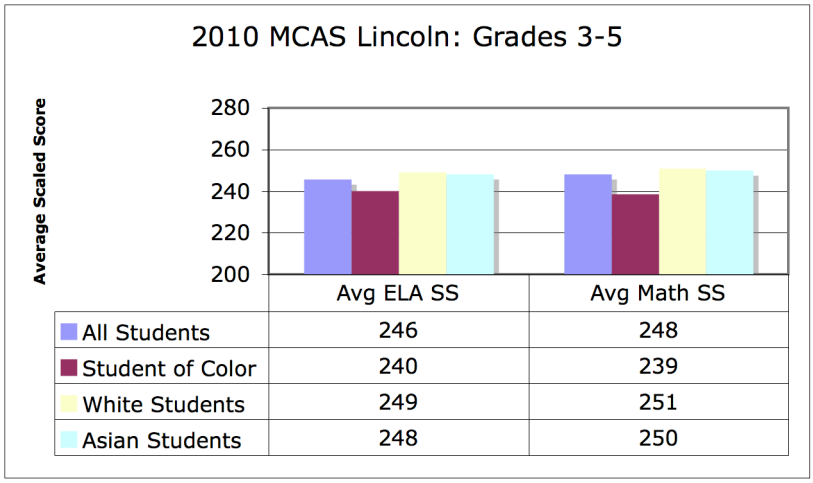
II. Information from Data: What Does Evidence of Performance Show?

As indicated earlier in this report, the district has been developing a local data warehouse, designed to collect and analyze data systematically. At the School Committee meeting of December 2, 2010 we presented an overview of the Local Data Warehouse. Using these data, as well as report card grades from our student information system, Aspen X2, we have developed information on student performance using MCAS scaled scores and student growth percentiles, Everyday Math mid and end of year assessments, the Fall 2010 common writing assessment, and June 2010 final grades.

MCAS Data

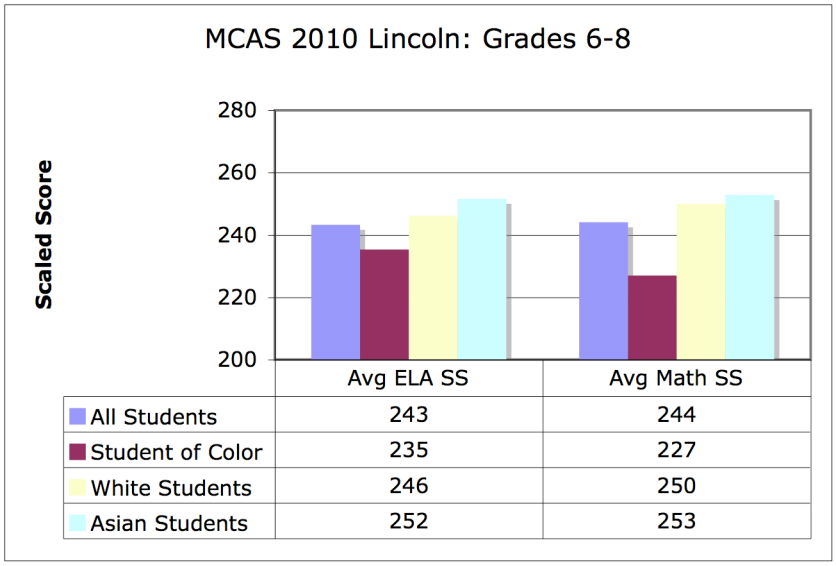
Two data sets are used to measure the performance of Students of Color, White and Asian students. Scaled scores on the 2010 MCAS English Language Arts assessment and the Math Assessment. This state assessment was administered in the Spring of 2010 and results we received in the fall. The English Language Arts at grade 3 is primarily a reading teat, in grades 4 to 8, it included open response questions, and in grades 4 and 7, a long composition. While the test is different for each grade, the raw scores are scaled to performance ranges from 200 to 280, with 4 performance categories. The math assessment is comprised of multiple choice items, short answers and open response items at each grade level. Short answer items require students to perform a series of calculations; open response items require students to explain their mathematical thinking and to calculate the correct answers, and multiple-choice items require students to select an answer from several possible answers. The same 200 to 280 scale and performance bands are used.	
MCAS Performance Categories	200 to 220: Warning 221 to 240: Needs Improvement 241 to 260: Proficient 261 to 280: Advanced

2010 MCAS: Average Scaled Scores for Gr 3 to 5: Lincoln



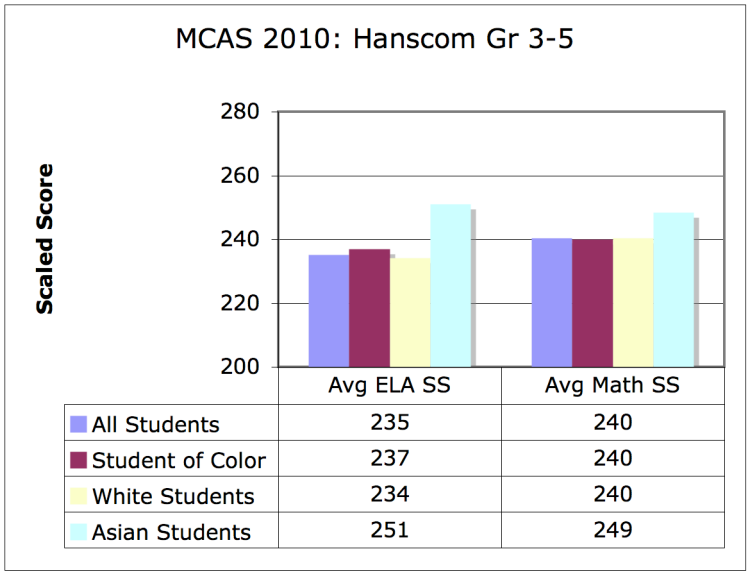
	Avg ELA SS	Avg Math SS
All Students	246	248
Student of Color	240	239
White Students	249	251
Asian Students	248	250

2010 MCAS: Average Scaled Scores for Gr 6 to 8: Lincoln



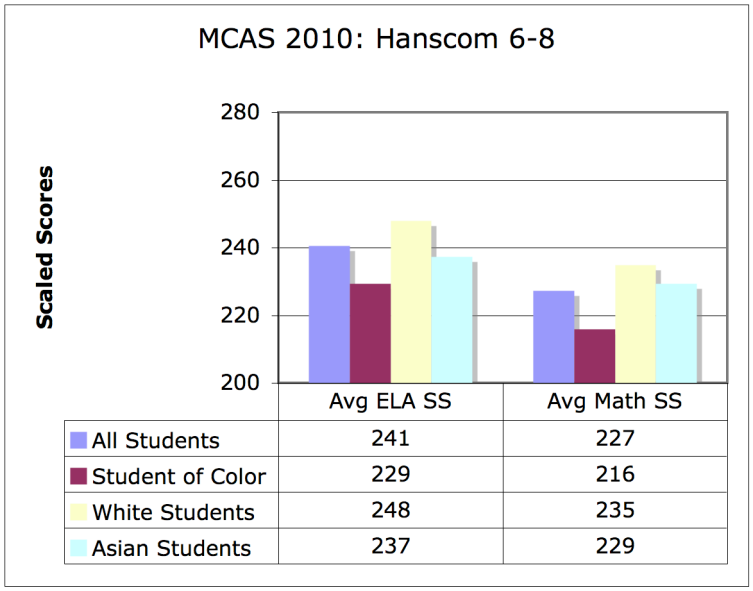
	Avg ELA SS	Avg Math SS
All Students	243	244
Student of Color	235	227
White Students	246	250
Asian Students	252	253

2010 MCAS: Average Scaled Scores for Gr 3 to 5: Hanscom



	Avg ELA SS	Avg Math SS
All Students	235	240
Student of Color	237	240
White Students	234	240
Asian Students	251	249

2010 MCAS: Average Scaled Scores for Gr 6 to 8: Hanscom



	Avg ELA SS	Avg Math SS
All Students	241	227
Student of Color	229	216
White Students	248	235
Asian Students	237	229

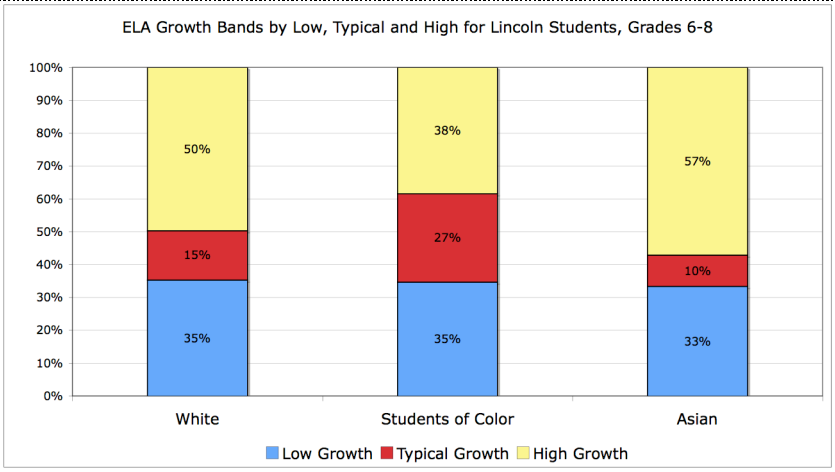
Student Growth Percentiles [SGP] are relatively new metrics used by the Massachusetts Department of Elementary and Secondary Education. SGPs are calculations designed to display the relative growth of an individual student compared to his/her academic peers from across the State. At least two years of MCAS performance is required and beginning in grade 5, three years of data are used in the calculation. Students who do not have a sufficient MCAS performance history are not included. In our district, few Hanscom students at grades 4-8 have sufficient MCAS test scores (multiple years) to present reliable student growth percentiles. While we review these on an individual basis the sample size is too small to include in this report.

Growth bands indicating low, typical or high growth are as follows:

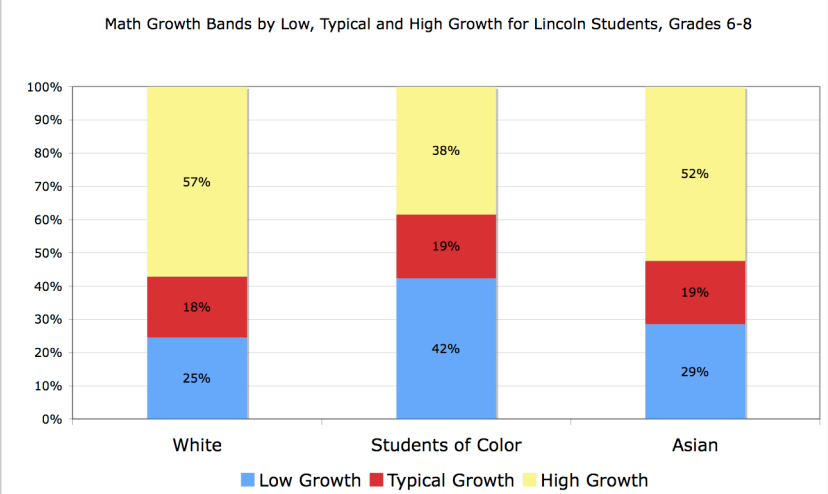
Percentiles 1 to 39: low growth
Percentiles 40 to 60: typical growth
Percentiles 61 to 99: high growth

Growth percentiles are not representative of performance but students with low performance and high growth are moving toward proficiency. Student with high performance but low growth are not progress as quickly as peers.

2010 MCAS Student Growth Percentiles for Lincoln Students Grades 6-8: ELA



2010 MCAS Student Growth Percentiles for Lincoln Students Grades 6-8: Mathematics



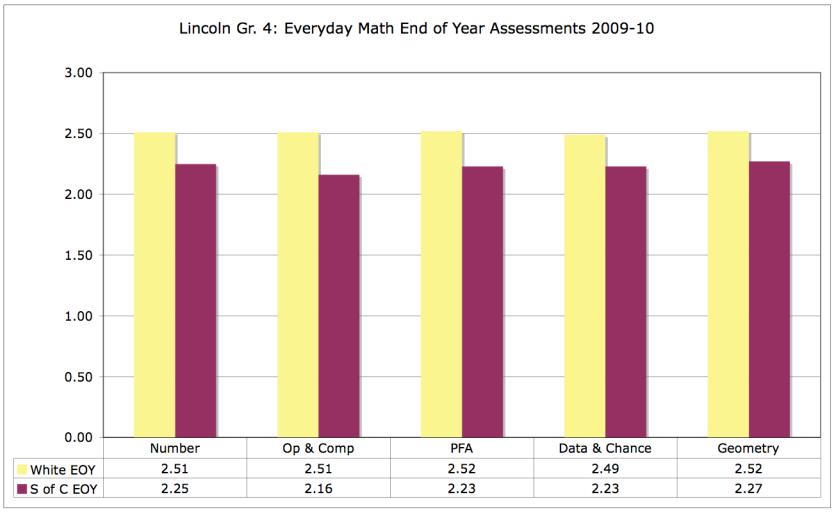
Common Assessments

The district has moved toward adopting and administering common assessments in all content areas and grades. For the purpose of this report you will find student performance measures for last year's End-of-Year assessment in Everyday Mathematics for students in grades 4 and 5 and performance measures for the district's Fall 2010 common writing assessment reported in grade clusters for students in grades 4 to 5 and 6 to 8.

Both assessments are scored on three point scales with items scores clustered by 5 strands: Number, Operation and Computation, Patterns, Functions and Algebra, Data and Chance and Geometry and Measurement. Everyday Math scores for Asian students are not included because last year's version of the tracking database was designed to cluster students by White or Students of Color (e.g., African American/Black and/or Hispanic).

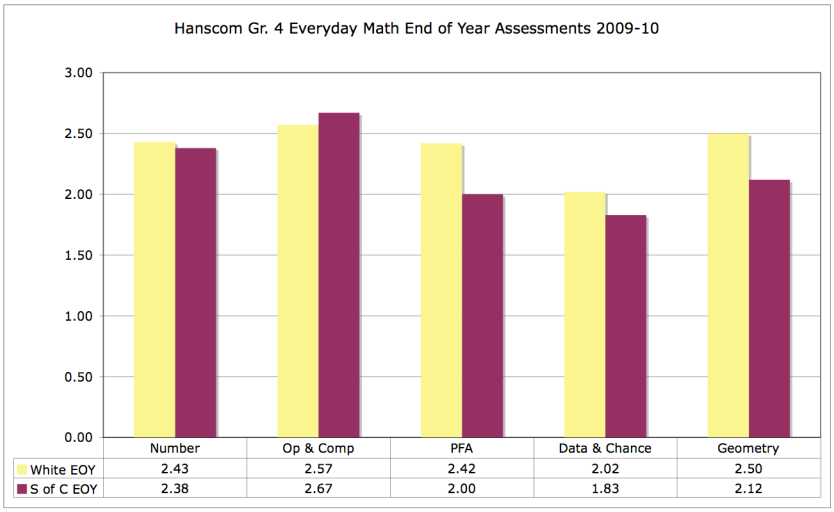
Grade 4 Everyday Math: Lincoln School

June 2010



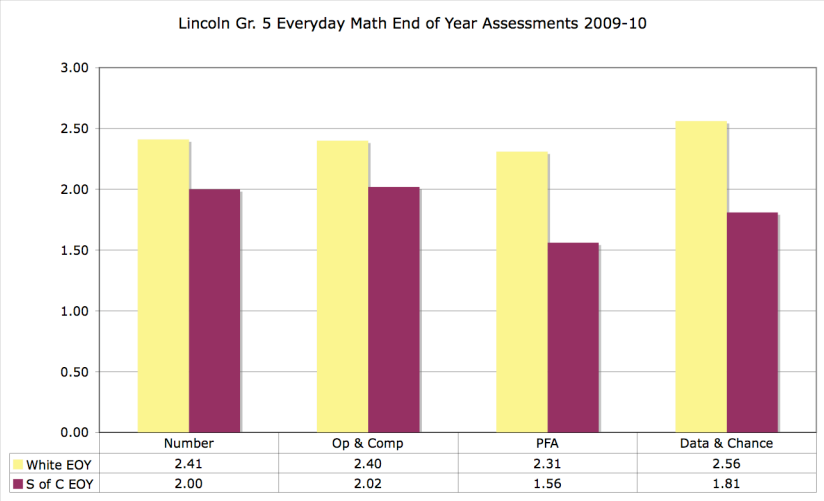
Grade 4 Everyday Math: Hanscom Middle School

June 2010



Grade 5 Everyday Math: Lincoln School

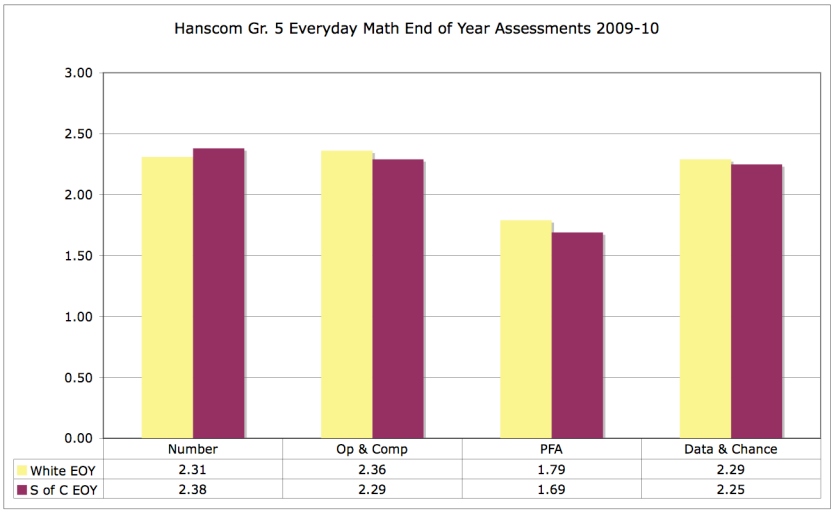
June 2010



	Number	Op & Comp	PFA	Data & Chance
White EOY	2.41	2.40	2.31	2.56
S of C EOY	2.00	2.02	1.56	1.81

Grade 5 Everyday Math: Hanscom Middle School

June 2010



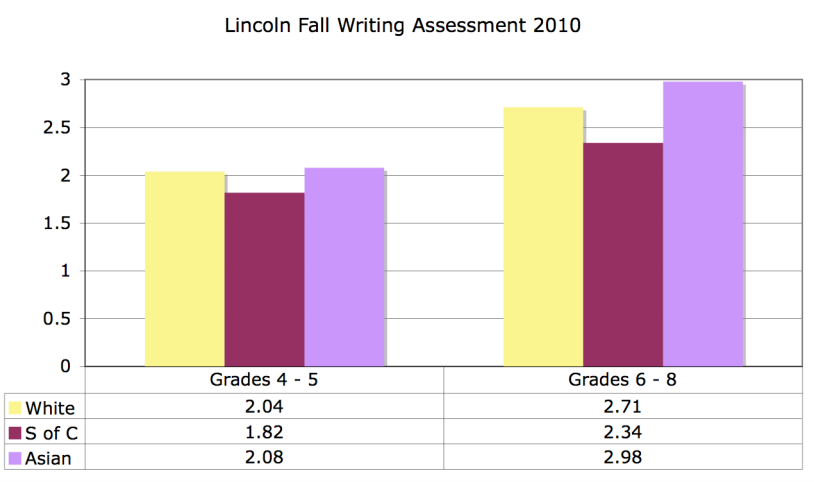
	Number	Op & Comp	PFA	Data & Chance
White EOY	2.31	2.36	1.79	2.29
S of C EOY	2.38	2.29	1.69	2.25

Writing Assessment

Writing prompts were administered to all students at the beginning of the school year in September 2010. Student writing was scored on seven attributes. The graphs represent average performance of all attributes for each group. Writing was scored on a three-point scale.

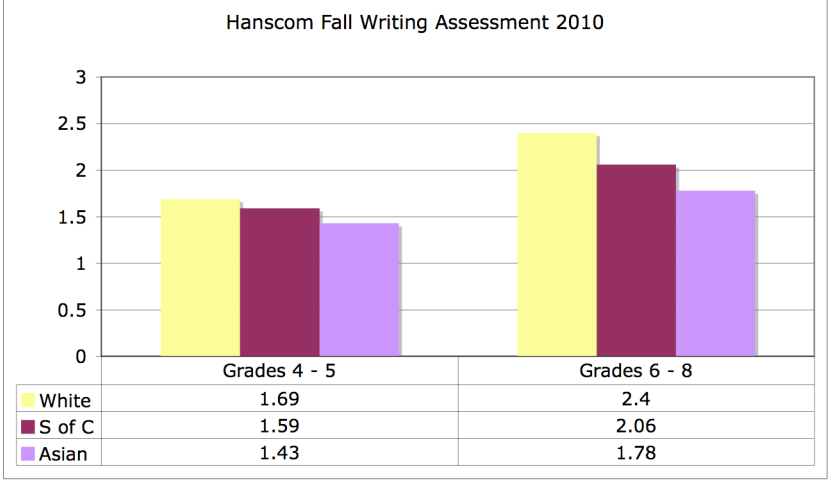
September 2010 Writing Assessment: Lincoln

Grades 4 to 5 and 6 to 8



September 2010 Writing Assessment: Hanscom

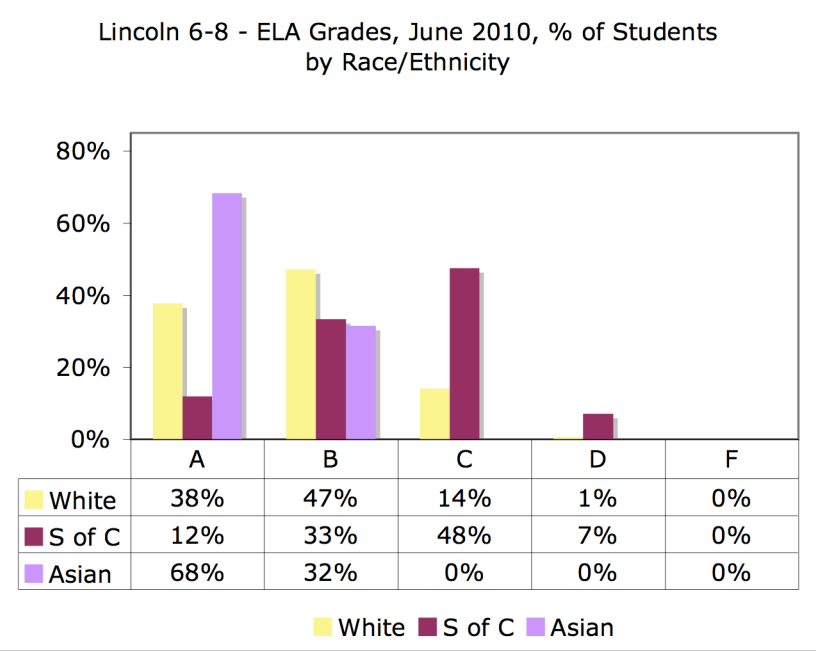
Grades 4 to 5 and 6 to 8



Report Card Grades

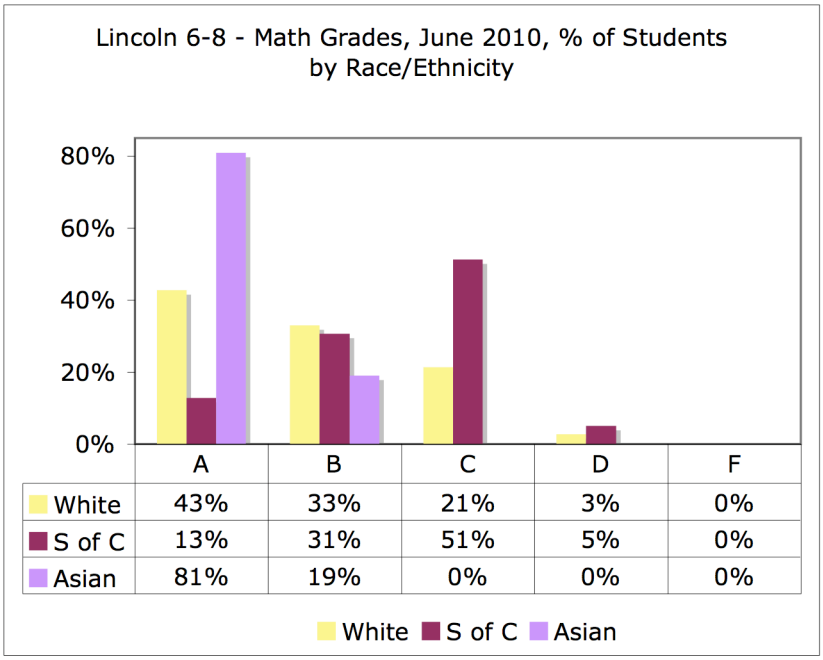
Student performance on report cards is presented based on final grades in English and Mathematics from June 2010. The percentage of students in each racial/ethnic category earning a grade within that grade band (i.e., A+, A and A- are reported as A, etc)

English Report Card Grades: June 2010: Lincoln School



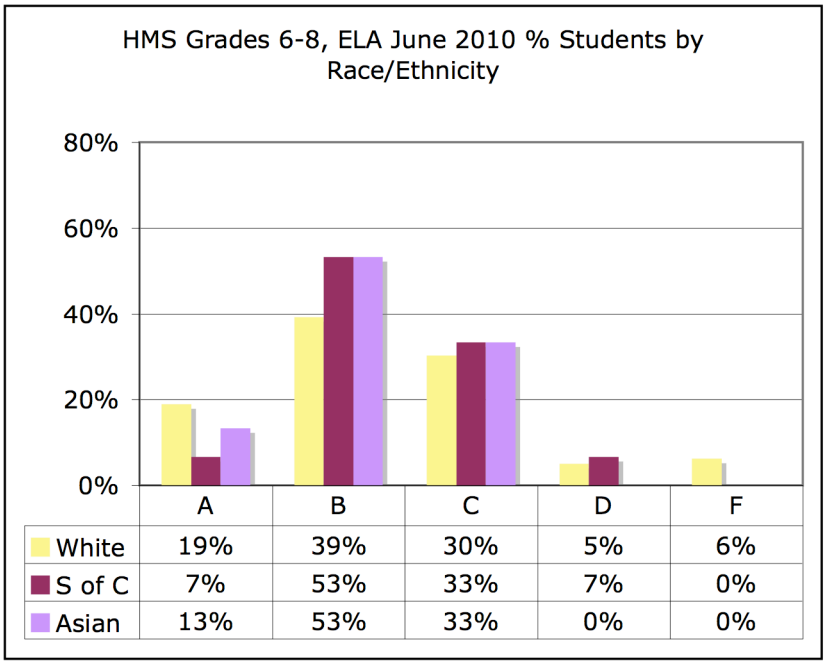
	A	B	C	D	F
White	38%	47%	14%	1%	0%
S of C	12%	33%	48%	7%	0%
Asian	68%	32%	0%	0%	0%

Math Report Card Grades: June 2010: Lincoln School



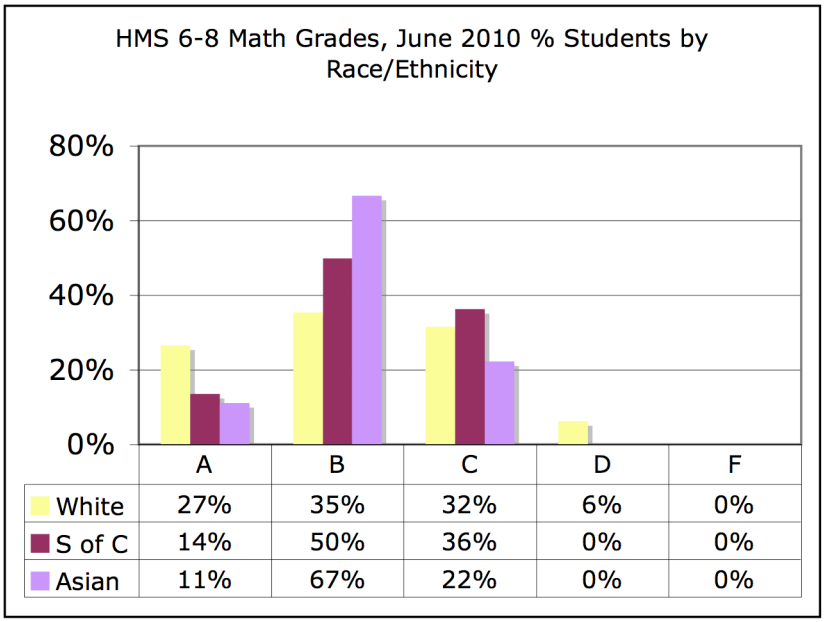
	A	B	C	D	F
White	43%	33%	21%	3%	0%
S of C	13%	31%	51%	5%	0%
Asian	81%	19%	0%	0%	0%

English Report Card Grades: June 2010: Hanscom Middle School



	A	B	C	D	F
White	19%	39%	30%	5%	6%
S of C	7%	53%	33%	7%	0%
Asian	13%	53%	33%	0%	0%

Math Report Card Grades: June 2010, Hanscom Middle School



	A	B	C	D	F
White	27%	35%	32%	6%	0%
S of C	14%	50%	36%	0%	0%
Asian	11%	67%	22%	0%	0%

III. Current Efforts and Next Steps at the District Level and on Each Campus

Current Efforts at the District Level
At the district level and in each school, efforts have been made in the past and new efforts are underway this year. Although the data about achievement gaps in our district are reflected in grade spans and in groups, our approach to addressing those gaps is highly individualized. In addition to a strong classroom program, several key practices throughout the district are part of our commitment to meet the academic needs of <u>all</u> students:

- Direct services in math and literacy by teachers and tutors
- Review by Instructional Support Teams
- Special Education services and District Curriculum Accommodation Plan (DCAP)
- Student Learning Plans
- Grade level team meetings about student performance

Data about individual student performance are used to decide which students will receive services from math or literacy specialists, or a tutor in the school. Individual students may be referred to the Instructional Support Team in each building, which then reviews a student's past and current performance and makes recommendations such as accommodations within the classroom, specific services from tutors, math or literacy specialists, remedial or specialized instruction from student services faculty or referral to evaluation for special education. Special Education services are made available to students who are determined to be eligible and have an Individualized Education Program (IEP). Other students with disabilities may only require accommodations articulate in a 504 Accommodation Plan. Student Learning Plans are developed for any student who received MCAS scores at the Needs Improvement and Warning performance levels the previous year. These plans include information from local common assessments in order to get a more comprehensive view of student performance. The plans specify areas of need and targeted interventions by classroom teachers and specialists. Grade level teams engage in weekly discussions regarding student progress and share strategies to meet student needs. All of the services described above form the basis of our individualized approach to addressing the needs of students whose achievement is not what we expect at their grade-level.

Next Steps:
In all teams and departments, we will continue all the services described above. We will also continue to set aside time and provide support for teachers to use data collaboratively in order to inform instruction and improve learning. Our practice of administering and analyzing common assessments will continue at the primary and secondary level in all subject areas. We intend to complete the establishment of our Local Data Warehouse to store state and local data in every grade. We plan to expand teacher use of this database next year so teachers contribute to and can have access to up-to-date information about student performance. Finally, at the district level, we will support efforts on both campuses to use assessment to identify student needs and to track progress on specific interventions intended to increase student achievement.

<u>Hanscom Primary and Middle Schools</u>

The data about achievement gaps at the Hanscom schools confirms some of what we already know: too many of our students fail to attain proficiency, especially as measured by the Massachusetts Comprehension Assessment System. Analysis at a deeper level is more challenging due to our size and our transient population.

Current Efforts:
On a positive note, the data for grades K-3 show that we do not currently have an achievement gap at the primary level between racial/ethnic groups. In fact, the data shows that students of

color perform as well as all other students and actually outperform other groups of students in ELA. At Primary School we continue to put in place strategies that we believe are highly effective in helping all students to learn and achieve at high levels. In our case we aim for prevention, rather than remediation of gaps. Our work over the past few years has included insuring a "guaranteed and viable" curriculum for all. Last summer a two-week summer skills builder program was implemented and aimed to boost student's ability to prevent summer skills loss and reacclimatize to school before the start of a new school year. We are particularly invested in assisting students to develop a growth mindset and to help all students to see that they can "get smart" through effective effort. This is an area where we are working to build on last year's grade two Achievement Gap Action Research Project (AGART) project. We are finding ways to make it a commitment to building a growth mindset as part of our curriculum and operationalize it as we have with the Responsive Classroom program and our HPS Citizenship Agreement.

However, the data also shows that as our students get older an achievement gap begins to form between Caucasian students and students of color. At Hanscom Middle School this year we recognize our overall proficiency gap and we have made new efforts that we believe will help to start to close this gap. At the middle school, we changed our overall schedule to build in a block of flexible time to provide targeted interventions, including, extra math and ELA classes and targeted interventions in science and social studies. We also added a new math course for students in 7th and 8th grade who were not ready to access grade level curriculum. We continue to provide targeted interventions in small groups utilizing our math and literacy specialists. As we begin the second trimester we are starting our homework club two days a week after school. Finally, we are conducting mid-year assessments (literacy and math) to re-evaluate students.

At grades 4-8, we have also made a concentrated effort to change our culture to incorporate a more pervasive academic spirit. We are doing this through community meetings, communicated values, and student recognition. We are also expanding our parent outreach by inviting parents into school more often for educational events. As we move forward, it is essential to evaluate the impact these changes have had and to assess whether we have been able to narrow our overall achievement gap.

Perhaps most importantly, throughout all of the Hanscom Schools, we are increasing our ability to gather and use data to inform instruction. Forming professional learning communities, teachers are looking at and studying data. This includes not only analyzing student data, but also determining how to use the data that we have to guide our instructions and the educational decisions we make for our students. Increasingly, we are finding better ways to use data to assist students with learning through targeted interventions that are to geared to their learning needs. Digging deeper into data to inform curriculum and instruction will continue to be a central focus of our achievement gap work.

Next Steps:
In light of the data presented in this report we have lots of questions to ask and to answer as we move ahead to consider school improvement planning for 2011-2012. We need to take a closer look at why an achievement gap by race begins to form, as students get older. While the data at the primary school is encouraging, the majority of those students end up not attending the middle school. So, why is it that there is less of an achievement gap when students are younger? Are there transferable strategies that we can try? Do we have a small enough population for a tenacity study in which an adult becomes a mentor or has responsibility to each individual student? What we do know -- and research confirms -- is that there are no quick and easy solutions to closing the achievement gap. "The achievement gap has deep roots and we should be careful not to implement superficial and unproven solutions." (in article by Joseph Murphy as summarized in the Marshall Memo). With this caution in mind we will move ahead during the

second part of this year, using the data, as outlined in this report, and work to find meaningful solutions to close the achievement gap in our schools.

Lincoln School Grades K-4 and 5-8

At the Lincoln School, we have the advantage of being able to look at students' progress over a nine- year period. This allows for teachers, tutors, and the principals to see what strategies and interventions work well for students and what needs to be adjusted. As seen above, the data shows that the achievement gap that begins in the lower grades becomes more pronounced as students reach the upper grades. This is particularly true in mathematics. While we have focused the bulk of our math and reading specialist time in the lower grades in an effort to narrow the gap before students reach the upper grades, there continues to be a gap in student performance in the upper grades.

Current Efforts:
Since September, K-4 teachers have been using focused interventions with their most challenged students (Low income and/or African American/Black) to support identified areas of weakness. Practices that have been in place include:

Kindergarten
- Additional math instruction 3 times a week 15 – 20 minutes
- Small group work to reinforce the instruction in literacy and math
- Consults with math specialist who provided practice materials for home and classroom
- Alphabet recognition games (1/2 hour a week more exposure than other students) - for children on the cusp of benchmark
- Art teacher incorporating number related questions each class in order to reinforce counting and number sense.

Grade 1
- Small group work to reinforce the instruction in literacy and math
- Social worker support for behavioral and attention interventions

Grade 2
- Literacy Jump Start – 10 week program of reading intervention 2 times 30 minutes/week with the Literacy Specialist – for children on the cusp of benchmark
- Small group work to reinforce the instruction in literacy and math
- Social emotional supports to build self esteem

Grade 3
- Reading and Writing Conferences with the classroom teacher for targeted intensive instruction and reinforcement 4 times/week
- Math small group instruction 5 times 20 minutes/week
- Reading Rangers – Middle School students read with student and encourage reading

Grade 4
- Small group reviewing and previewing math concepts and vocabulary
- Small group vocabulary instruction in isolation and in context
- FASTT Math – technology intervention

At grades K-4, these interventions have been monitored for success through the use of district based literacy assessments (early literacy skills, running records, DRA, Fountas and Pinnell, DIBELS, beginning and mid-year writing assessments) and Math assessments (Everyday Math

unit assessments, FASTT Math). Varied levels of success have been recorded at each grade and the analysis of the assessment data has driven planning and decisions related to continuing an intervention or making instructional adjustments.

At grades 5-8 early in the school year, teachers were given the MCAS results for their students, along with relevant local assessments. Analysis by teams led to the following interventions being delivered in different grade levels. In grades five through eight this year, teachers have been trying different strategies and configurations of students to narrow gaps.

Grade 5
The fifth grade team has focused on teaching students to be mindful of their word choices in their writing. The teachers and math specialists have also used small group instruction to target math instruction to student's needs. The groups are chosen through the use of Everyday Math assessments, as well as MCAS scores.

Grade 6
In grade six, particularly in mathematics, teachers are teaching students how to do error analysis with their work so that they can begin to see which of their mistakes are simple calculation, which are misreading of the directions, and which are not understanding the concept. As students learn to analyze their work, they begin to slow down and make fewer of the same kind of mistakes.

Grade 7
The seventh grade teachers, particularly in English Language Arts focus on using a rubric to improve the 6 traits of writing (subject areas also focus on content, in addition to 6 traits). While all students receive the instruction, approaches are differentiated for the identified students. A small group of our students also participate in an additional class each day that is targeted specifically at reading comprehension strategies. In mathematics, there is a small after school math class that focuses on building skills in answering open response questions in mathematics, as well as on basic skills that may not have become automatic for students.

Grade 8
Eighth grade teachers have spent time this fall helping students to assess how they study for tests and quizzes in an effort to help them focus their studying attention in a way that will help them to achieve to their fullest potential. In math, there is also weekly math remediation session with a math specialist that is targeted toward improving basic skills.

Next Steps:
At grades K-4, we plan to analyze the data from specific interventions this year to determine correlation to student improvement. We will continue to use those interventions that are shown to be effective in raising student achievement. In addition, the following plans are underway:

Math Camp 2011: Plans are currently in place to run the Math Camp in August 2011 for students entering grades 3 and 4 in the 2011-12 school year. This program has a focus on both remedial and extension math supports for students. The program ran in the summer of 2010 and received favorable reviews from students and parents. Next summer, a pre-and post assessment component will be implemented to objectively document the success of the program

Achievement Camp: Plans are currently in place to run an Achievement Camp in August 2011 for students entering grades K-2 in the 2011-12 school year. The focus of this new summer program is to invite Lincoln School children in need of an extra boost in the areas of literacy and math. A pre-and post assessment component will be implemented to objectively document the success of the program

PK-1 Achievement Gap Prevention: A teacher group has been formed to identify ways to provide early intervention supports for our youngest students. In its very early stages of development, this group is looking for ways to extend a reach into the communities we serve. This will include local preschools, connections through METCO, Inc. and interactions with families.

At grades 5-8, the data we collect from the small group instruction and instructional strategies teachers are implementing this school year will provide information guide decisions to discontinue interventions that have not been successful and build on interventions that have shown to improve student achievement. In addition, our plan for next year includes a scheduling and program change that will allow us to use some small group instructional strategies and instructional time to address student achievement during the school day. Our proposed schedule gives us an extension block three days a week where teachers can offer specific remedial instruction in math and reading for students whose assessments indicate that such intervention is necessary. In grades six and eight, we will pilot an extra writing class for one trimester for all students. This class will give the English teachers the opportunity to address specific student needs using a differentiated approach. We believe that our refined middle school program will provide new learning opportunities for all students and give us the leverage needed to narrow achievement gaps at our school.

Closing Achievement Gaps: Lessons from the Last 15 Years

How educators look at achievement gaps will determine their success in reducing them. The guidelines and caveats presented here will help educators get a good start.

By Joseph Murphy

At first glance, closing the achievement gap seems fairly straightforward. It's a difficult task to accomplish, but it doesn't seem an especially complex one to conceptualize. The differences in scores between group A (say, low-income students) and group B (middle- to high-income students) needs to decline, with the goal of arriving at the point where scores between the two groups are equivalent.

However, as we peer more deeply into the matter, we find that closing the achievement gap is a good deal more complex. There's a host of issues, beginning with decisions about the types of measures to use to chart the gap, carrying through to ways to measure and interpret scores, and ending with questions about the effectiveness of varying strategies.

While educators don't need to study achievement gap research in depth, there are guidelines and key warning signs that educators would do well to heed. For example, educators and policy makers need to keep certain cautions front and center as they interpret achievement gap data. The most important of these cautions follow.

DIFFERENCES WITHIN SUBGROUPS

Even when tests scores are disaggregated by groups (for example, white vs. black), these scores themselves mask differences. Part of the problem is that most racial and ethnic groups have distinctive subgroups. For example, Asian-American students generally have achievement equal to or higher than white students, but Asian-American students from particular cultures and nations tend to achieve at significantly lower levels than others (Shannon and Bylsma 2002).

There also are important social and economic differences among Hispanic subgroups, including Puerto Rican, Cuban, and Central and South American Hispanics (Natriello, McDill, and Pallas 1990). And there are different black populations that correspond to economic status (Farley 1984).

The message for educators is that differences within groups are lost when disaggregation stops at the currently used designations. Reformers are advised to peer more deeply into gap scores and to be more thoughtful about how they interpret gap-related data.

Another problem is the tendency to lump disaggregated groups together, for example, combining black and Hispanic children in the broader category of minority students. There is evidence that certain gap-reduction strategies are more appropriate for

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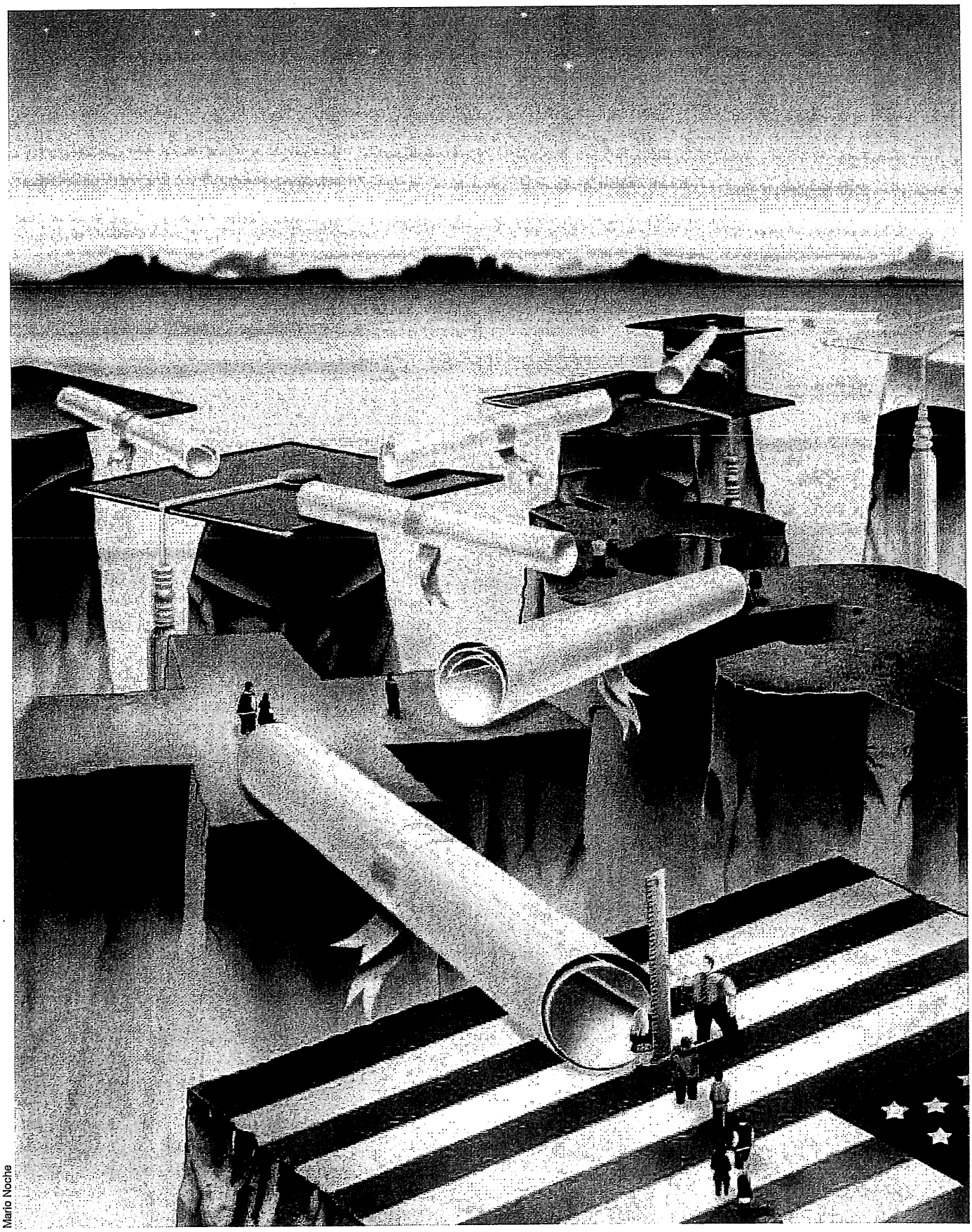

Mario Noche

one group than another, and the tendency to combine different groups negates the possibility of using these strategies effectively.

Another problem is that, even if one were to uncover all the appropriate subgroups, the use of subgroups still masks the condition of individual students. The use of averages masks differences in skills and hides useful information about the performance of youngsters. There are low- and high-achieving children in all groups. While the achievement gap literature defines equity in terms of groups, the reality is that equity must be determined one student at a time.

WHAT IS MEASURED

Educators also need to be cautious of the truncated understanding of "success" found in much of the achievement gap literature, which highlights one measure of success, that is, equity in the distribution of achievement scores and attainment levels. Educators and policy makers need a broader definition of success, one that includes "equity" but also incorporates information on achievement levels and the value added to achievement. In short, not all gap reductions are equal.

Lee provides a critical insight into the importance of achievement levels when he concludes that "no matter how much the relative achievement gap among different racial and social groups has been narrowed, some disadvantaged minority students' performance level still may not be acceptable" (2004: 61). Magnuson and Duncan observe that:

> interventions can be designed to improve black (and/or white) children's relative skills and absolute levels of academic skills at differing points in the skill distribution. However, it is not immediately obvious which is more detrimental to blacks and to society in general — lower levels of achievement among black children or lower achievement of black as compared with white children. (2006: 388)

"Value-added" models examine the school's contribution to students' achievement gains. Schools sometimes are given credit for high levels of student learning for which they may not be responsible. For example, if a 4th-grade student starts the year at 7.2 grade-level equivalent in reading and ends at 7.9 grade-level equivalent, that student looks very strong in terms of level. But the school has not contributed much to that success, at least not in the 4th grade. Conversely, schools sometimes are blamed for achievement gaps that aren't under their control, such as the increase in gaps because of higher summer gains for white students than for black students.

Figure 1 illustrates the problem that can arise when schools are concerned with equity more than achievement levels and added value. It shows a graph that many educators would present as good news. "Equity" is increasing; the gap is declining. While the achievement gap in reading was 1.0 grade levels at the start of 3rd grade, it was only 0.9 grade levels by the start of the 4th grade. However, neither the added value (only eight months for black students) nor the level of achievement (2nd grade, eight months at the start of 4th grade) is acceptable. Although the achievement gap has decreased, the results aren't a success.

FIG. 1

Although the Achievement Gap Has Decreased, the Results Are Unacceptable

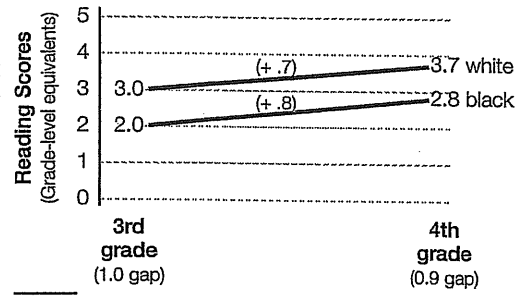

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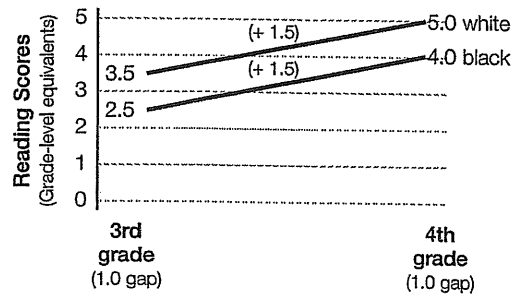
Figure 2 demonstrates the opposite problem in using only equity to measure success. In this scenario, the reading gap remains unchanged from the start of 3rd grade to the beginning of 4th grade. Educators who are concerned with only equity will see this as a failure. However, black students gained a full year and a half in reading, nearly double the growth

FIG. 2

Although the Achievement Gap Remains Unchanged, Student Growth and Achievement Levels Are a Success



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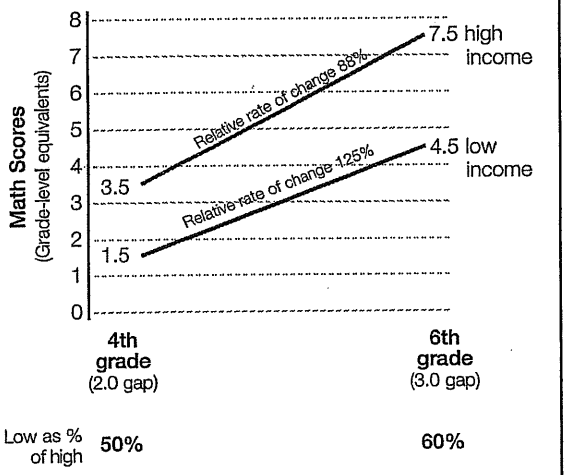
in each of the three previous years. Also, they are now reading at grade level. Even though the gap has not closed, the overall storyline in Figure 2 is positive.

Another problem with what is measured is the nearly exclusive focus on standardized tests, often limited to language arts and mathematics. Rothstein (2004) also raises warnings about the dangers of ignoring the many noncognitive, social skills we would like to see developed at school. He reminds us to be cautious about relying almost exclusively on indices of basic skills, as opposed to more advanced and generally more valued skills. His overarching caution is against narrowness in the quest to enhance equity and quality.

ABSOLUTE VS. RELATIVE IMPROVEMENT

How one measures achievement gaps has a good deal to do with how one works to confront the problem. How one interprets the results of that measurement also is important. That is, educators need to consider whether attention is directed to improving the absolute level or reducing the relative gap. Figure 3 helps illustrate this concern.

FIG. 3
Absolute and Relative Interpretations Provide Different Evaluations of Success



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In Figure 3, there is a 2.0 year gap in mathematics achievement between low- and high-income students at the start of 4th grade. By the beginning of 6th grade, the gap increased to 3.0 years. Considering only absolute levels, one would say that the gap is widening. However, using relative levels, we would say that the gap is closing. Even though the overall gap has expanded, the rate of growth for low-income students is much higher than for high-income students (125% vs. 88%). Also, while the low-income students were performing only 50% as well as their high-income peers at the start of the 4th grade, at the beginning of the 6th grade they were doing 60% as well. Note that the achievement level for low-income students (4.5) remains unacceptable, but the added value or growth is good, 2.5 years across the 4th and 5th grades.

While the achievement gap literature defines equity in terms of groups, the reality is that equity must be determined one student at a time.

The goal is not simply to provide equations to evaluate claims about whether the gap problem is being addressed effectively. Rather it is to help educators understand that appropriate metrics and interpretations need to be employed in making judgments about gap reductions. The frameworks for helping eliminate school achievement gaps should spotlight increasing achievement among low-skilled children more than reducing gaps between groups.

GUIDELINES FOR CLOSING GAPS

There are reasons why achievement gaps have been resistant to policy actions. First, the knowledge base on closing the achievement gap for minority students is especially thin. Second, there is a host of pre-established solutions in the general school reform environment (for example, school choice, comprehensive school reform) that advocates link to achievement gaps with very little evidence that they will affect learning differentials. They are solutions in search of problems. But there is no magic elixir that will solve the achievement gap problem.

If closing the achievement gap means improving the learning of targeted students at a faster rate than for other students, then we need to disproportionately advantage these students. The advantaging process can occur in two ways. First, programs can target disadvantaged students specifically. Second, strategies can provide gains to all but provide greater gains to targeted students. For example, the use of cooperative learning strategies and small class sizes in the early grades benefit black students more than white students (Murphy 2009).

The caveats for educators are: 1) raising student achievement generally and reducing the achievement gap are not the same thing; 2) if equity is the goal, focusing on reform strategies that power higher achievement for all students will not ameliorate the gap; and 3) "most school policies have a

small effect on test scores, impacting all racial groups in a similar manner, without redistributing benefits across groups" (Bali and Alvarez 2003: 485).

Over the last decade, we've been able to forge important "principles of work" that need to be followed if gap-reduction efforts are to be effective. We introduce some of them here as cautionary rules of thumb.

- Race is important, but socioeconomic status is the critical issue.
- There is no silver bullet that will solve the achievement gap; a combination of strategies is required to gain traction on the issue.
- Equity can be achieved only if the design features strategies that disproportionately advantage students on the wrong side of the achievement gap.
- An integrated, cohesive design that thoughtfully brings together multiple strategies is desirable; isolated actions and ad hoc work have more limited value.
- The cohesive design needs to include both out-of-school factors (for example, academically oriented summer programs in elementary school) and in-school variables (for example, more rigorous curriculum).
- In the school part of the cohesive design, both academic (for example, quality instruction) and environmental (for example, clubs for black students) factors should be included.
- Some factors carry more weight in certain periods of a student's career (for example, small class size is more valuable in the early grades).
- Local context matters a good deal; interventions perform differently according to the setting.
- Because closing achievement gaps once they have developed is difficult, prevention always trumps remediation; solving the 9th-grade problem in preschool is easier than solving it in 9th grade.
- Length of time in treatment is important; for many gap interventions, benefits escalate the longer the intervention unfolds.
- There are no short-term solutions.
- Supports should not be withdrawn even when gaps are reduced; continued work is required to hold gains.

Two other issues of great importance to educators, cost-benefit data and unintended consequences, haven't received much attention in the literature. Interventions to close gaps, such as reducing elementary school class sizes, have both benefits and costs. If the same gain can be garnered from strategy A, and A costs half as much as strategy B, then pursuing strategy A is usually the wiser choice.

Educators also must anticipate unintended outcomes; there will be some. Some thought needs to be devoted to working through potential unintended consequences before undertaking any initiative. But educators should also look for positive unintended consequences.

CONCLUSION

Achievement gaps have important consequences for both individuals and the nation. They damage the economic and social fabric of society, undermine civil rights and social justice for a large segment of the population, and destroy the principles of democracy. A sense of urgency around this issue has emerged in the last dozen years. That commitment is leading to new gap-closing strategies.

Going forward naively, however, will do no one any good. Achievement differences have deep roots. Yet there is hope. Achievement gaps are not inevitable, and many schools are tackling the problem effectively. If educators keep certain caveats in mind when devising interventions, they can go a long way toward solving this problem. K

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