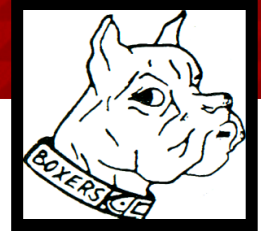


High Standards, High Expectations, NO Excuses: The Brockton High Transformation

**Dr. Sue Szachowicz
Senior Fellow, ICLE
Retired Principal,
Brockton High**

SAANYS Annual Conference October, 2016





NO silver bullets
NO magic formula
NO special programs

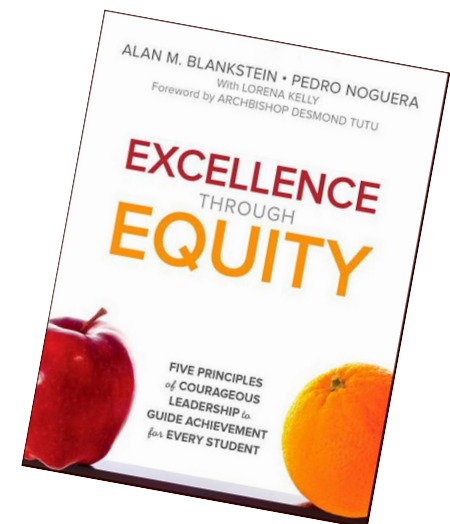
If we can do this, ANYONE can!

Creating the Conditions

“Brockton High demonstrates that you don’t have to change the student population to get results, you have to change the conditions under which they learn.”

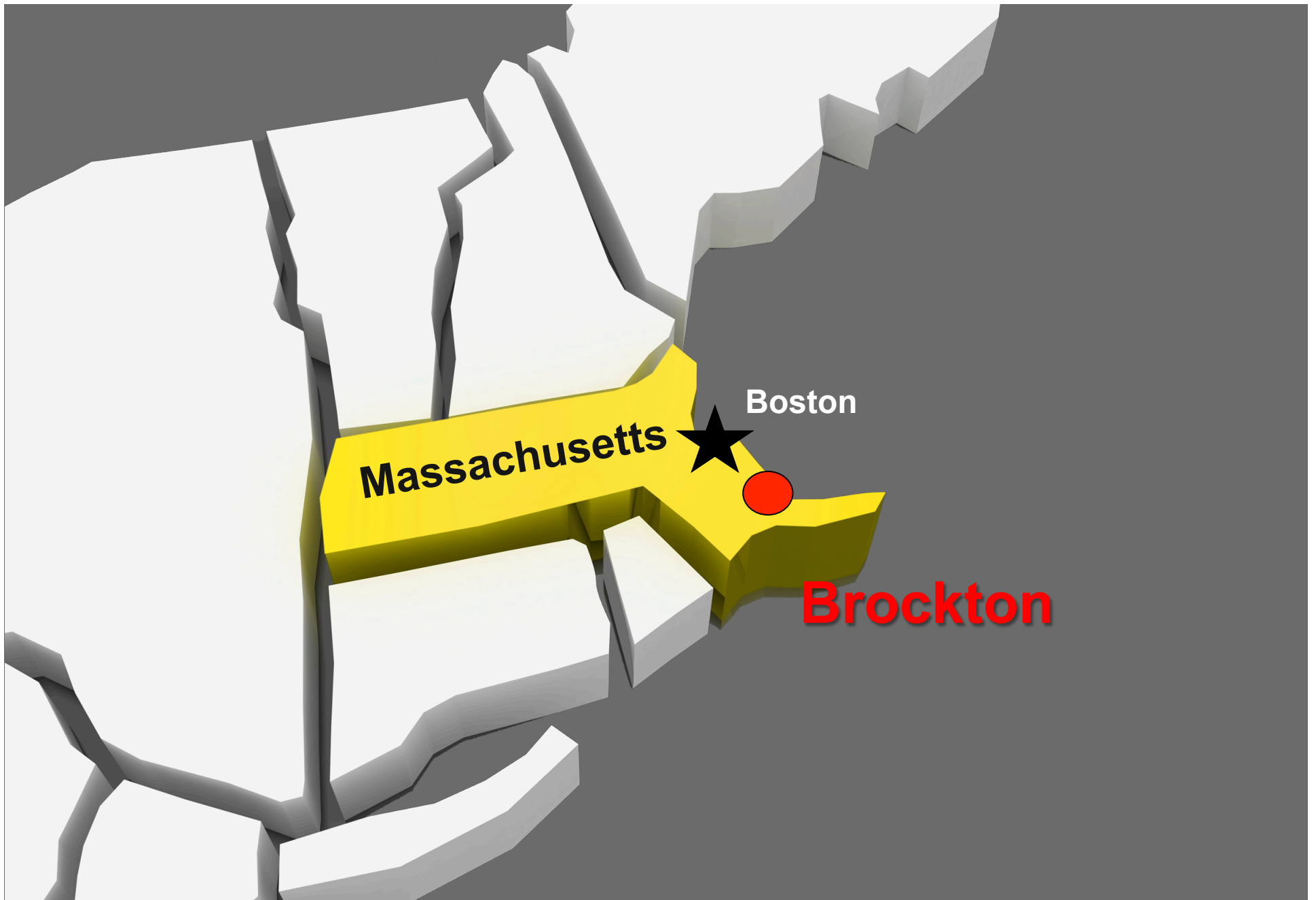


Pedro Noguera



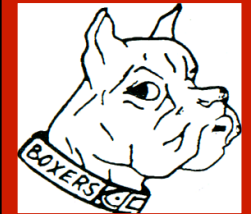
**So, WHO is this
woman, and WHY is
she here???**

**A bit about Brockton
High**





Some info about Brockton High



- **Comprehensive 9 – 12**
- **4,250 Students**
- **83% Poverty level**
- **79% Minority population:**
- **49 different languages**
- **43.4% speak another language in the home**
- **19% ELL Services**
- **12% receive Special Education services**



Who goes to Brockton High?



61% Black - includes African American, Cape Verdean, Haitian, Jamaican, and others



21% White
12.3% Hispanic
2.5% Asian
3% Multirace
.2% Native American



12 Year Demographic Trends

2003

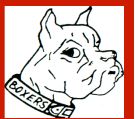
- Another Language at home 32.1%
- LEP 8.7%
- Low Income 57.2
- Special Education Services 10%

2008

- Another Language at home 32.9%
- LEP 12%
- Low Income 67.3
- Special Education Services 10.1%

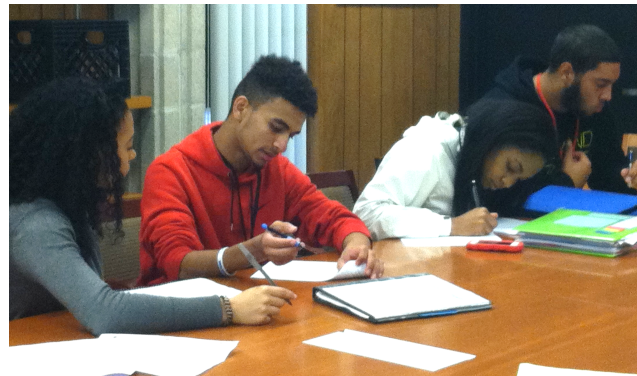
2015

- Another Language at home 40%
- ELL 17.2%
- Low Income 80.23
- Special Education Services 11%



More about BHS

1. Attendance Rate = 93%
2. Dropout Rate 1.1%
(grades 9-12)
3. 922 Graduates in
in the Class of 2016
4. 91% Accepted at College
or University
5. Enlistees = 22



But it wasn't always so happy. Here's what we faced... Sound familiar??

- Mass. implemented a high stakes test (MCAS)
- Three-quarters of our students would not be earning a diploma
- Culture of low expectations – “*Students have a right to fail*” (former BHS Principal)
- Negative image in our city, in the state (nasty comments!)
- Yet we were living in DENIAL!!!!
- Who is responsible???? We had silos (My kids, your kids, not OUR kids)
- Success by chance – depended on who your teacher was – are you lucky???

Here's where we were on our state assessment:

MCAS 1998

Failure

ELA – 44%

(Sped – 78%)

MATH – 75%

(Sped – 98%)

MCAS 1998

Advanced+Proficient

ELA – 22%

MATH – 7%

**And they MUST pass to graduate –
NO exceptions!!!**

MCAS1999 | The results

Failing scores

Last month, the Board of Education voted to make 220 the passing score for the MCAS exam. The class of 2003 will be the first students in the state required to earn a 220 in both math and English in order to earn a diploma. A 220 is one point above failing in the 'needs improvement' category. If the MCAS test were a graduation requirement today, the following districts would have the highest number of students who would not be able to graduate. The Globe analysis is based on this year's 8th grade test results because those students will be members of the class of 2003.

Rank/District	Score
121 FALL RIVER	1996
122 BROCKTON	1993
123 LOWELL	1992
124 CHELSEA	1989
125 NEW BEDFORD	1988
126 LYNN	1984
127 BOSTON	1977
128 SPRINGFIELD	1964
129 HOLYOKE	1948
130 LAWRENCE	1944

English

District	1999	1998
HOLYOKE	40	40
SPRINGFIELD	34	29
Seven Hills	33	23
LAWRENCE	32	33
CHELSEA	29	26
LYNN	29	27
NEW BEDFORD	28	25
FITCHBURG	27	24
WORCESTER	27	23
BOSTON	26	29
LOWELL	26	30
FALL RIVER	24	24
Greenfield	23	20
BROCKTON	22	21
Webster	22	17
Renaissance	21	34
LAVERGNE	20	16

Math

District	1999	1998
Seven Hills	79	62
HOLYOKE	77	83
LAWRENCE	76	75
SPRINGFIELD	74	72
LYNN	71	69
NEW BEDFORD	68	64
BROCKTON	66	68
Sabis International	66	45
FALL RIVER	66	61
LOWELL	66	61
Renaissance	65	61
CHELSEA	64	61
FITCHBURG	63	60
Palmer	63	56
CHICOPEE	60	60
REVERE	60	63
TAUNTON	60	63
	59	68
	59	49
	58	60

the districts

staff
Globe staff chart



That's where we were...



Let's start with the BEST
part of the story first...
(It's WICKED awesome!)

1998

2014

Advanced+Proficient

ELA – 22 %

MATH – 7 %

Advanced+Proficient

ELA – 88 %

MATH – 70%

Failure

ELA – 44%

MATH – 75%

Failure

ELA – 1 %

MATH – 9 %

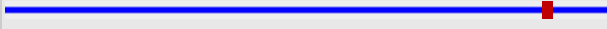
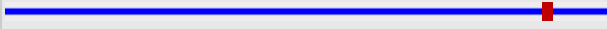





Massachusetts School and District Profiles

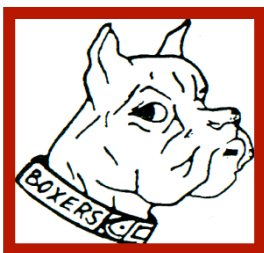
Brockton High

2016 Accountability Data - Brockton High

Organization Information			
District:	Brockton (00440000)	School type:	High School
School:	Brockton High (00440505)	Grades served:	09,10,11,12
Region:	Commissioner's Districts	Title I status:	Non-Title I School (NT)

Accountability Information		About the Data
Accountability and Assistance Level		
Level 1	Meeting gap narrowing goals	
This school's overall performance relative to other schools in same school type (School percentiles: 1-99)		
All students:	<div><div></div></div> 36	
	Lowest performingHighest performing	

This school's progress toward narrowing proficiency gaps (Cumulative Progress and Performance Index: 1-100)			
Student Group (Click group to view subgroup data)	On Target = 75 or higher - ■		View Detailed 2016 Data
	Less progress	More progress	
All students		82	Met Target
High needs		95	Met Target
Econ. Disadvantaged		-	
ELL and Former ELL		78	Met Target
Students w/disabilities		74	Did Not Meet Target
Amer. Ind. or Alaska Nat.		-	
Asian		-	
Afr. Amer./Black		87	Met Target
Hispanic/Latino		67	Did Not Meet Target
Multi-race, Non-Hisp./Lat.		-	
Nat. Haw. or Pacif. Isl.		-	
White		85	Met Target



It's cool and fun to be smart



1998

859 STUDENTS
(4400 students)

19%

Honor Roll Statistics

2015

1611 STUDENTS
(4250 students)

38%



Brockton High went from this:

THE BOSTON GLOBE • WEDNESDAY, DECEMBER 8, 1999

MCAS1999 | The results

Failing scores

Last month, the Board of Education voted to make 220 the passing score for the MCAS exam. The class of 2003 will be the first students in the state required to earn a 220 in both math and English in order to earn a diploma. A 220 is one point above failing in the 'needs improvement' category. If the MCAS test were a graduation requirement today, the following districts would have the highest number of students who would not be able to graduate. The Globe analysis is based on this year's 8th grade test results because those students will be members of the class of 2003.

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FALL RIVER	24	24
Greenfield	23	20
BROCKTON	22	21
Webster	22	17
Renaissance	21	34
HAVERHILL	20	16
North Adams	20	19

Math

District	1999	1998
Seven Hills	79	62
HOLYOKE	77	83
LAWRENCE	76	75
SPRINGFIELD	74	72
LYNN	71	69
NEW BEDFORD	68	64
BROCKTON	66	68
Sabis International	66	45
FALL RIVER	66	73
LOWELL	66	70
Renaissance	66	91
CHELSEA	66	71
FITCHBURG	63	63
Palmer	63	63
CHICOPEE	60	60
REVERE	60	63
TAUNTON	60	63
BOSTON	59	68
	59	49
Ams	58	60



the districts

puted by Globe staff
Globe staff chart

Turnaround at Brockton High

The Boston Globe

Emphasis on literacy brings big MCAS improvement



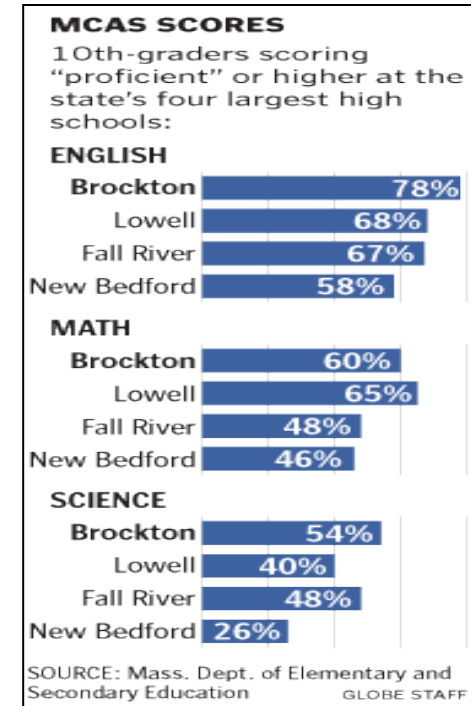
Principal Susan Szachowicz, shown chatting at lunch with Yiriam Lopez, is in many ways the school's biggest cheerleader. (Essdras M Suarez/ Globe Staff)

By [James Vaznis](#) Globe Staff / October 12, 2009

BROCKTON - Brockton High School has every excuse for failure, serving a city plagued by crime, poverty, housing foreclosures, and homelessness.

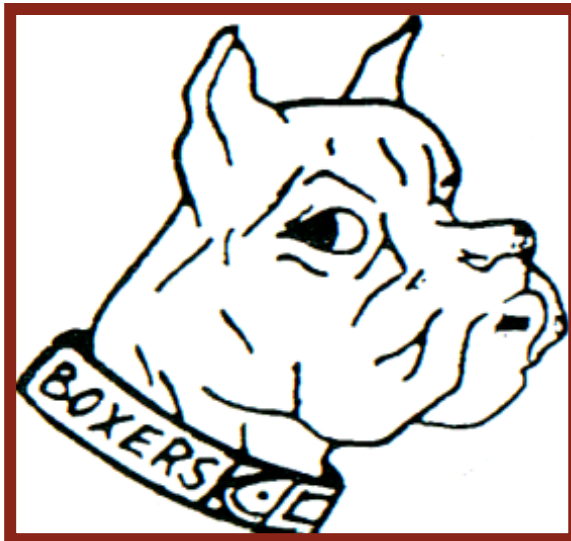
Almost two-thirds of the students qualify for free or reduced-price lunches, and 14 percent are learning to speak English. More than two-thirds are African-American or Latino - groups that have lagged behind their peers across the state on standardized tests.

But Brockton High, by far the state's largest public high school with 4,200 students, has found a success in recent years that has eluded many of the state's urban schools: MCAS scores are soaring, earning the school state recognition as a symbol of urban hope.



To THIS!!!

Boxers in the NEW YORK TIMES



High Expectations NO Excuses!!!



September 28, 2010

As we say in Boxer Country, we are WICKED AWESOME!!!

**Our Turn Around Story...
We did it our way!**



Transforming a
Culture through
Literacy

A.K.A. - It's
COOL to be
smart at
Brockton
High!!!



High Expectations in action!



It's not enough to just EXPECT MORE. High expectations are essential, but they are NOT ENOUGH!!! Students also need to build skills!

How did we change the culture of Brockton High???

**Just my opinion...
for what it's worth**

**Too often schools consist of
separate classrooms, everyone
with their own set of
expectations and standards.
When everyone focuses, it can
be powerful learning!**

The POWER of a school wide initiative!!!

Changing Culture through Literacy

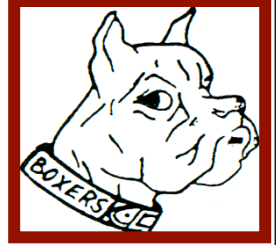
- ❖ Set clear expectations about WHAT we would teach the students to be able to do: LITERACY
- ❖ Taught everyone HOW to teach these skills (WHAT?? Me teach reading??)
- ❖ Many teachers only believed when the SAW the results
- ❖ AND, we valued their work. Their instruction mattered!!!

**Here's another way to
say it simply:**

**You want to improve
your school?
Focus on the adults,
not the kids!**

Our FOUR transformation steps

Step ONE: Empowering a Leadership Team



Restructuring Committee – our “think tank”

- Every department represented with a mix of teachers and administrators
- Balance of new teachers and veterans, new voices, and voices of experience
- Selection criteria: Trust, Communication Skills, Collaboration, Humor
- Go after people!!!



**International Center for
Leadership in Education**



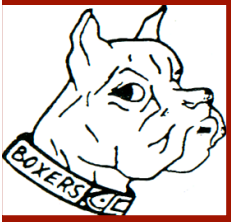
**We looked at the data
And, our first plan:**



**Let's figure out the test
The result of that:**

**The Great
Shakespearean Fiasco**





Back to the drawing board...



**We had to figure out a
different approach.
That led us to LITERACY
for all.**



Back to the drawing board to find a better approach



We asked 3 questions:

1. What skills do our students need to be able to do to be successful on the MCAS?
2. What skills do our students need to be able to do to be successful in their classes?
3. What skills do our students need to be able to do to be successful in their lives beyond BHS?



From that discussion:



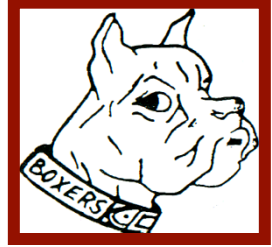
We noticed that students needed to be able to:

- read challenging passages, difficult nonfiction,
- write – a LOT,
- solve multistep problems, explain their thinking,
- speak professionally... they needed SKILLS!

THAT LED US TO:

LITERACY – First, we defined it, then trained ourselves how to teach these literacy skills to our students

Step TWO: Focused on Literacy for ALL



First, we defined literacy:

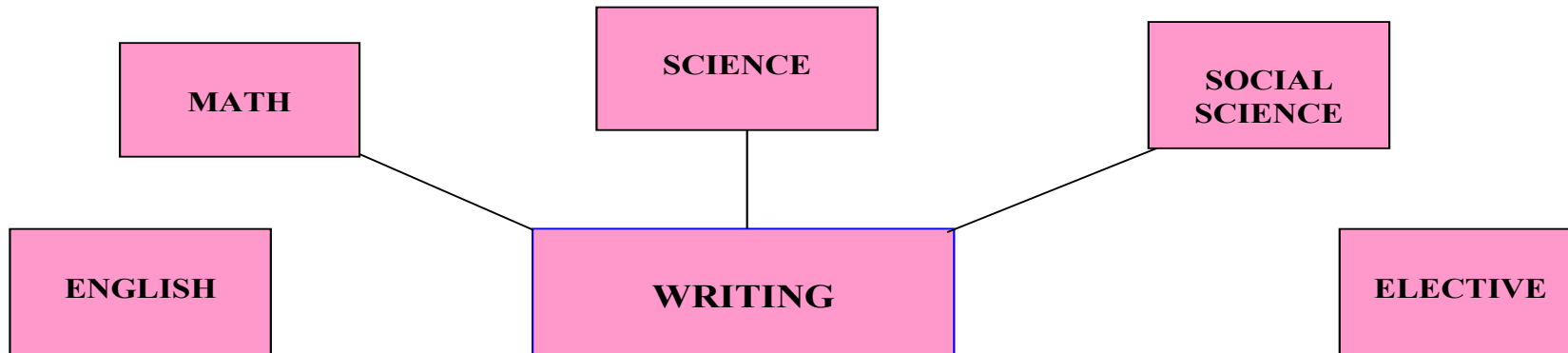
**Reading, Writing,
Speaking, Reasoning**

Then we said, LITERACY for ALL,
every class!

How did we determine our focus?

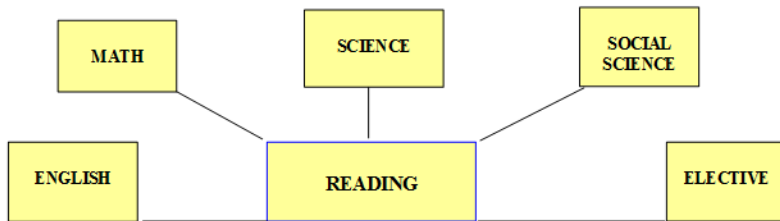
Literacy Skills Drafted in each area:

LITERACY CHART: WRITING

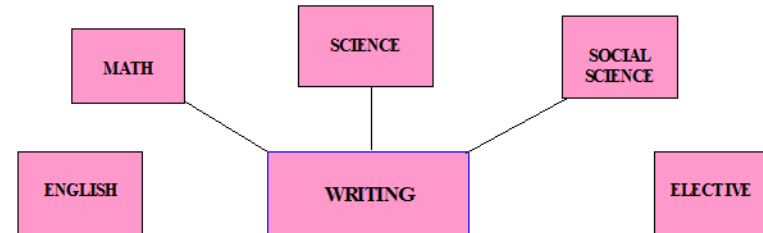


- to take notes
- to explain one's thinking
- to argue a thesis and support one's thinking
- to compare and contrast
- to write an open response
- to describe an experiment, report one's findings, and report one's conclusion
- to generate a response to what one has read, viewed, or heard
- to convey one's thinking in complete sentences
- to develop an expository essay with a formal structure

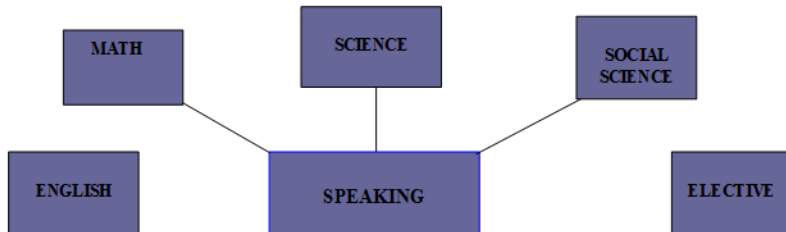
Brockton High Literacy Initiative



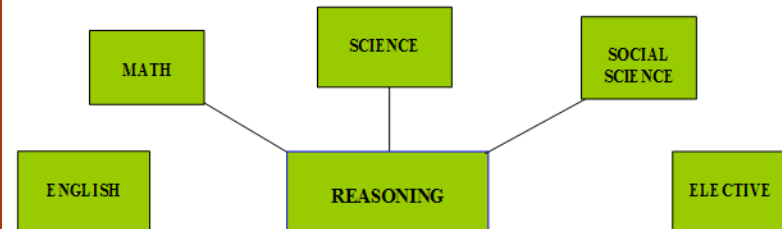
- for content (both literal and inferential)
- to apply pre-reading, during reading and post-reading strategies to all reading assignments, including determining purpose and pre-learning vocabulary
- to research a topic
- to gather information
- to comprehend an argument
- to determine the main idea of a passage
- to understand a concept and construct meaning
- to expand one's experiences



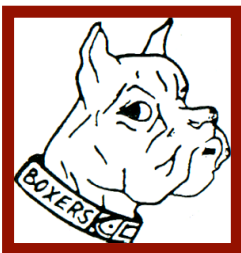
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- to convey one's thinking in complete sentences
- to develop an expository essay with a formal structure



- to convey one's thinking in complete sentences
- to interpret a passage orally
- to debate an issue
- to participate in class discussion or a public forum
- to make an oral presentation to one's class, one's peers, one's community
- to present one's portfolio
- to respond to what one has read, viewed, or heard
- to communicate in a manner that allows one to be both heard and understood



- to create, interpret and explain a table, chart or graph
- to compute, interpret and explain numbers
- to read, break down, and solve a word problem
- to interpret and present statistics that support an argument or hypothesis
- to identify a pattern, explain a pattern, and/or make a prediction based on a pattern
- to detect the fallacy in an argument or a proof
- to explain the logic of an argument or solution
- to use analogies and/or evidence to support one's thinking
- to explain and/or interpret relationships of space and time



ALWAYS REMEMBER



The PROCESS of involving everyone was critical to our success. We did not have buy-in, but we did have our faculty engaged in the process. We even involved our community!



Engaging the faculty:



**After each discussion, back to
Restructuring for revisions.**

**This process went back and forth
to the faculty four or five times
that year.**

Review, discuss, revise, repeat!



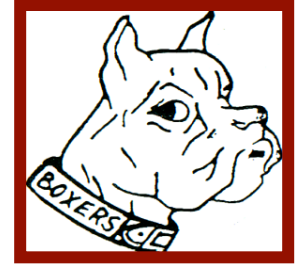
So now what...



We had cool looking charts on the walls... SO WHAT...

The KEY to our implementation is HOW we trained teachers to teach these Literacy skills to our students.

Step THREE: Implemented
with fidelity and a plan



Faculty Meetings became
Literacy Workshops
KEY = Adult Learning
Teachers teaching
teachers – GOOD stuff!



The key to our transformation:



ADULT LEARNING and SUPPORT

We modeled for the
faculty the process
that they would
then teach to the
students.





It's about instruction:



**We knew that the “HOW WE
TEACH IT” matters...**

**How many of your teachers
are like me?**

Me, teach reading???



FOCUS, FOCUS, FOCUS



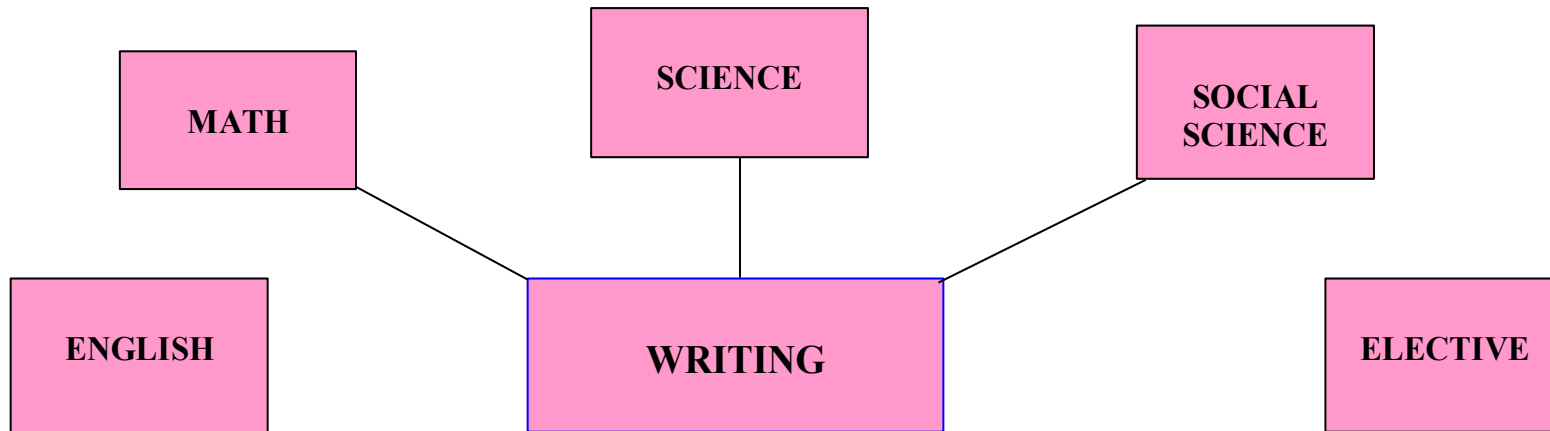
We started with writing!



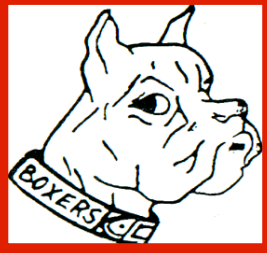
Writing is thinking



LITERACY CHART: WRITING



- to take notes
- to explain one's thinking
- to argue a thesis and support one's thinking
- to compare and contrast
- to write an open response
- to describe an experiment, report one's findings, and report one's conclusion
- to generate a response to what one has read, viewed, or heard
- to convey one's thinking in complete sentences
- to develop an expository essay with a formal structure



LITERACY WORKSHOP: OPEN RESPONSE WRITING



WHAT IS IT? Students must read a passage, and then write a response to a question about that passage.

WHY START WITH THAT? Easily crosses all disciplines, is authentic, and is measurable.

**Students demonstrate writing skill
AND understand the content.**

OPEN RESPONSE WRITING STEPS

- 1. ACTIVELY READ QUESTION BY CIRCLING AND UNDERLINING KEY WORDS.**
- 2. RESTATE QUESTION AS THESIS (LEAVING BLANKS).**
- 3. ACTIVELY READ PASSAGE.**
- 4. MAP OUT YOUR ANSWER.**
- 5. WRITE YOUR RESPONSE CAREFULLY, USING YOUR MAP AS A GUIDE.**
- 6. STRATEGICALLY REPEAT KEY WORDS FROM THESIS IN YOUR BODY AND IN YOUR END SENTENCE.**
- 7. PARAGRAPH YOUR RESPONSE.**
- 8. REREAD AND EDIT YOUR RESPONSE.**

NOTICE THE FIRST FOUR STEPS IN OUR WRITING PROCESS – READING!

1. Read the question, prompt, or directions.
2. Circle and Underline the question
Circle key direction verbs.
(for example; discuss, contrast, explain)
Underline important information
(often there is irrelevant information)
3. In your own words, write what the question, prompt, or directions ask you to do.
4. **Develop your PLAN to answer the question, prompt or directions.**

The student creates a map in order to organize the response:

In this reading (look at the flipped question and restate by filling in the blanks)

Transition: One . . .
Topic
Supporting evidence
Explanation connecting to thesis

Body Paragraph 1

Transition: The next . . .
Topic
Supporting evidence
Explanation connecting to thesis

Body Paragraph 2

Transition: The final . . .
Topic
Supporting Evidence
Explanation connecting to thesis

Body Paragraph 3

To conclude... (connect to thesis)

Final Step: The Rubric

This rubric provides the students with the criteria upon which they will be assessed.

OPEN RESPONSE ASSESSMENT		
WRITER'S NAME _____		DATE _____
CONTENT	FORM	
8 <ul style="list-style-type: none"> Response contains a clear thesis and insightfully answers all parts of the question. Response provides relevant and specific textual evidence. Explanations of evidence are clear and accurate, and demonstrate superior understanding of the material. 	4 <ul style="list-style-type: none"> Response contains sophisticated and effective use of transitions and strategic repetition indicating complete control of the material. Response is logically and effectively organized in its thesis, paragraphing, and sequencing of examples. Response contains clear sentence structure with few or no errors. 	
6 <ul style="list-style-type: none"> Response contains a clear thesis and adequately answers all parts of the question. Response provides relevant but general textual evidence. Explanations of evidence are mostly clear and accurate, and demonstrate good understanding of the material. 	3 <ul style="list-style-type: none"> Response contains adequate but simplistic use of transitions and strategic repetition. Response is organized in its thesis, paragraphing, and sequencing of examples. Response contains clear sentence structure with no distracting errors. 	LEGIBILITY 1 <ul style="list-style-type: none"> Easy to read 0 <ul style="list-style-type: none"> Difficult to read
4 <ul style="list-style-type: none"> Response contains a thesis but only partially answers the question. Response provides a mix of accurate and inaccurate textual evidence. Explanations of evidence are vague and/or demonstrate limited understanding of the material. 	2 <ul style="list-style-type: none"> Response contains some inappropriate use of transitions and strategic repetition. Response demonstrates lapses in the organization of its thesis, paragraphing, and/or sequencing of examples. Response contains lapses in sentence structure that interfere with the clarity of thought. 	
2 <ul style="list-style-type: none"> Response contains a thesis but only minimally answers the question. Response provides insufficient and/or largely inaccurate textual evidence. Explanations of evidence are unclear and/or demonstrate minimal understanding of the material. 	1 <ul style="list-style-type: none"> Response contains incorrect or inadequate use of transitions and strategic repetition. Response reflects minimal organization of its thesis, paragraphing, and/or sequencing of examples. Response contains major errors in sentence structure. 	LENGTH 1 <ul style="list-style-type: none"> Sufficient 0 <ul style="list-style-type: none"> Insufficient
0 <ul style="list-style-type: none"> Response is incorrect. Response contains insufficient evidence to show understanding of the material. Response is off-topic and/or contains irrelevant content. 	0 <ul style="list-style-type: none"> Response contains no evidence of transitions and strategic repetition. Response reflects no organization. Response contains little to no evidence of sentence structure. 	

Evaluated by: Self Peer Teacher (Circle One)

Comments:

SCORING
 13-14 = Advanced
 11-12 = Proficient
 8-10 = Needs Improvement
 0-7 = Failing

So then what...

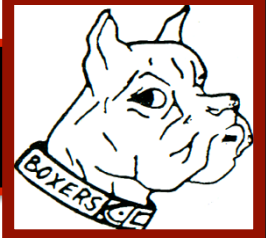


**Follow up the
Interdisciplinary Training.**

**Next step – HOW to bring this
into the classroom**

- **Lessons developed**
- **Implemented according
to a calendar**

We didn't leave it to chance!



**Everyone was trained to
teach the targeted Literacy
Skill. The implementation
was according to a
specific timeline.
NO EXCEPTIONS!!!**

Success by DESIGN, not by chance!

The Open Response calendar of implementation:

Nov 2-6: Social Science, Social Sci Biling.

Nov 30-Dec 4: Wellness, JROTC

Dec 14-18: Science, Science Bilingual

Jan 11-15: Business, Tech, & Career Ed.

Jan 25-29: Math, Math Bilingual

Feb 22-26: Foreign Lang, Special Ed

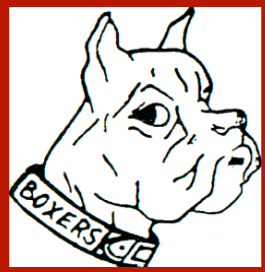
Mar. 7-11: English, ESL, Guidance

Mar 20-24: Family & Cons. Sci, ProjGrads

Apr 5-9: Music, Art

The key:

We infused literacy skills into EVERY area rather than doubling up on English and math classes. The content provides the context.



Step FOUR: Monitored like crazy!!!



What gets monitored is what
gets done!

- Monitoring the work of the students (rubrics and collection and review of the work)
- Monitoring the implementation by the faculty (walkthroughs, evals)



WRITER'S NAME _____

Evaluated by: Self _____

Comments _____

Peer _____

(Teacher) (Circle One)

T

DATE 1-11-11

SCORING

13-14 = Advanced

CONTENT	FORM	
<p>8</p> <ul style="list-style-type: none"> Response contains a clear thesis and insightfully answers all parts of the question. Response provides relevant and specific textual evidence. Explanations of evidence are clear and accurate, and demonstrate superior understanding of the material. 	<p>4</p> <ul style="list-style-type: none"> Response contains sophisticated and effective use of transitions and strategic repetition indicating complete control of the material. Response is logically and effectively organized in its thesis, paragraphing, and sequencing of examples. Response contains clear sentence structure with few or no errors. <i>Punctuation NOT Capitalized</i> 	
<p>6</p> <ul style="list-style-type: none"> Response contains a clear thesis and adequately answers all parts of the question. Response provides relevant but general textual evidence. Explanations of evidence are mostly clear and accurate, and demonstrate good understanding of the material. 	<p>3</p> <ul style="list-style-type: none"> Response contains adequate but simplistic use of transitions and strategic repetition. Response is organized in its thesis, paragraphing, and sequencing of examples. Response contains clear sentence structure with no distracting errors. 	<p>LEGIBILITY</p> <p>1</p> <p>0</p> <ul style="list-style-type: none"> Easy to read Difficult to read
<p>4</p> <ul style="list-style-type: none"> Response contains a thesis but only partially answers the question. Response provides a mix of accurate and inaccurate textual evidence. Explanations of evidence are vague and/or demonstrate limited understanding of the material. 	<p>2</p> <ul style="list-style-type: none"> Response contains some inappropriate use of transitions and strategic repetition. Response demonstrates lapses in the organization of its thesis, paragraphing, and/or sequencing of examples. - <i>Concluding Paragraph</i> Response contains lapses in sentence structure that interfere with the clarity of thought. 	
<p>2</p> <ul style="list-style-type: none"> Response contains a thesis but only minimally answers the question. Response provides insufficient and/or largely inaccurate textual evidence. Explanations of evidence are unclear and/or demonstrate minimal understanding of the material. 	<p>1</p> <ul style="list-style-type: none"> Response contains incorrect or inadequate use of transitions and strategic repetition. Response reflects minimal organization of its thesis, paragraphing, and/or sequencing of examples. Response contains major errors in sentence structure. 	<p>LENGTH</p> <p>1</p> <p>0</p> <ul style="list-style-type: none"> Sufficient Insufficient
<p>0</p> <ul style="list-style-type: none"> Response is incorrect. Response contains insufficient evidence to show understanding of the material. Response is off-topic and/or contains irrelevant content. 	<p>0</p> <ul style="list-style-type: none"> Response contains no evidence of transitions and strategic repetition. Response reflects no organization. Response contains little to no evidence of sentence structure. 	<p>2.0</p>

Total Score: _____

8

3.6

11-12 = Proficient

8-10 = Needs Improvement

0-7 = Failing



Remember

**It's about the adults, not
the kids!**

**We taught ourselves to teach
these literacy skills to
the students.**

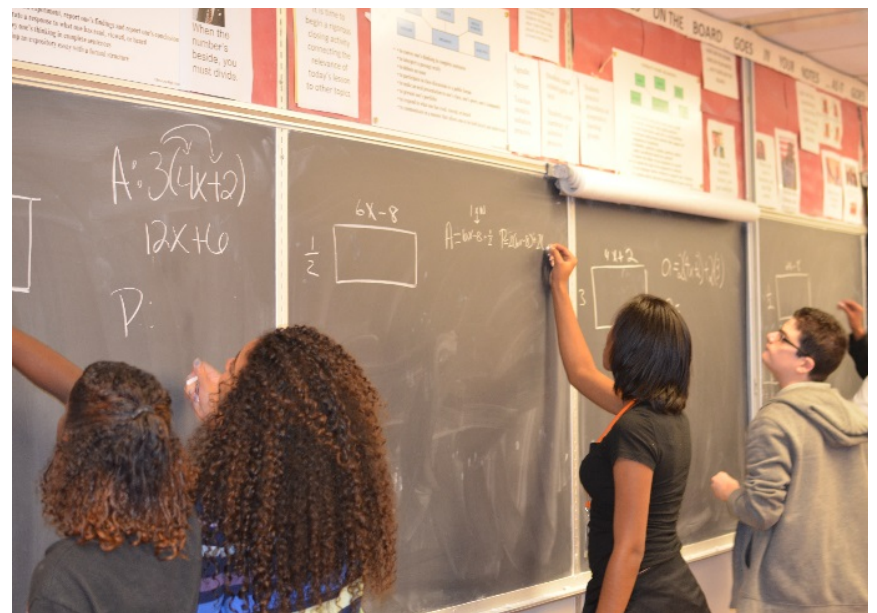
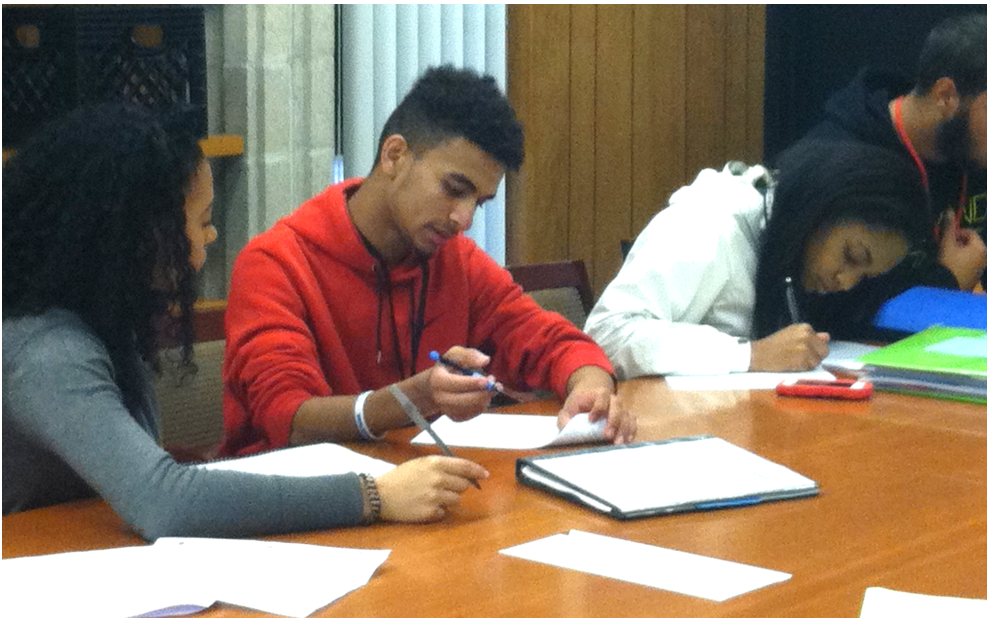
And we will ALL do it THIS WAY!

From *Talent is Overrated*

by Geoff Colvin

The factor that seems to explain the most about great performance is something the researchers call deliberate practice... Deliberate practice is hard. It hurts. But it works. More of it equals better performance. Tons of it equals great performance.

By doing this we gave
our students powerful
THINKING ROUTINES!



**So what does this look
like in the different
subject areas???**

**RIGOR + RELEVANCE=
GOOD WORK!!!**



Photo courtesy of Amherst College Library

Emily Dickinson

Emily Dickinson was born in Amherst, Massachusetts, in 1830. She attended Mount Holyoke Female Seminary in South Hadley, but severe homesickness led her to return home after one year. Throughout her life, she seldom left her house and visitors were scarce. The people with whom she did come in contact, however, had an enormous impact on her thoughts and poetry. She was particularly stirred by the Reverend Charles Wadsworth, whom she met on a trip to Philadelphia. He left for the West Coast shortly after a visit to her

home in 1860, and some critics believe his departure gave rise to the heartsick flow of verse from Dickinson in the years that followed. While it is certain that he was an important figure in her life, it is not certain that this was in the capacity of romantic love—she called him "my closest earthly friend." Other possibilities for the unrequited love in Dickinson's poems include Otis P. Lord, a Massachusetts Supreme Court Judge, and Samuel Bowles, editor of the Springfield *Republican*.

By the 1860s, Dickinson lived in almost total physical isolation from the outside world, but actively maintained many correspondences and read widely. She spent a great deal of this time with her family. Her father, Edward Dickinson, was actively involved in state and national politics, serving in Congress for one term. Her brother Austin attended law school and became an attorney, but lived next door once he married Susan Gilbert (one of the speculated—albeit less persuasively—unrequited loves of Emily). Dickinson's younger sister Lavinia also lived at home for her entire life in similar isolation. Lavinia and Austin were not only family, but intellectual companions during Dickinson's lifetime.

Dickinson's poetry reflects her loneliness and the speakers of her poems generally live in a state of want, but her poems are also marked by the intimate recollection of inspirational moments which are decidedly life-giving and suggest the possibility of happiness. Her work was heavily influenced by the Metaphysical poets of seventeenth-century England, as well as her reading of the Book of Revelation and her upbringing in a Puritan New England town which encouraged a Calvinist, orthodox, and conservative approach to Christianity.

Heart! We Will Forget him! Emily Dickinson

Heart, we will forget him!
You and I, to-night!
You may forget the warmth he gave,
I will forget the light.

When you have done, pray tell me,
That I my thoughts may dim;
Haste! lest while you're lagging,
I may remember him!

Knows how to forget!

by Emily Dickinson

Knows how to forget!
But could It teach it?
Easiest of Arts, they say
When one learn how

Dull Hearts have died
In the Acquisition
Sacrificed for Science
Is common, though, now —

I went to School
But was not wiser
Globe did not teach it
Nor Logarithm Show

"How to forget!"
Say — some — Philosopher!
Ah, to be erudite
Enough to know!

Is it in a Book?
So, I could buy it —
Is it like a Planet?
Telescopes would know —

If it be invention
It must have a Patent.
Rabbi of the Wise Book
Don't you know?

Emily Dickinson is a poet who often wrote about her own emotional struggles. In two poems “Heart, We Will Forget Him” and “Knows How to Forget” she writes about how difficult it is to forget. Please read the two poems and the brief biography and answer the following three questions:

- 1. What were some of experiences in her life that influenced her writing?**
- 2. What do the two poems have in common?**
- 3. How are the two poems different?**

Please use one quote from the poems or biography in each paragraph.

for the 2005-2006 Boies Junior High Varsity Treble Choir
Heart, We Will Forget Him!

For SSA and Piano
 Performance Time: Approx. 3:05

Words by
EMILY DICKINSON

Music by
LAURA FARNELL

Legato (with feeling) (♩ = 69)

Piano

Soprano I

Heart, we will for - get him!

Soprano II

Heart, we will for - get him!

Alto

Heart, we will for - get him!

Good Example

NAME

Folder # 61

3pts

Excellent job!

WRITE ON THIS PAPER. PLEASE WRITE NEATLY

The poem "Heart! We Will Forget Him!" and "Knows How to Forget" are by Emily Dickinson. Both poems are similar and also different in the overall meaning of the poem, but were both influenced by Emily's life experiences. *Good opening!*

A poet's experience in life and emotions sometimes always has a type of an influence on their work. In fact, in Emily Dickinson's case, her poems were deeply influenced by her emotional struggles and experiences with people. For instance, in her bibliography, it states "Dickinson's poetry reflects her loneliness..." Dickinson, according to the bibliography, lived at home having scarce visitors or contact with other people besides family. Therefore, most of her experience that influenced her work had to do with the people she met... "people with whom she did come in contact however had an enormous impact on her thoughts and poetry." Although Emily scarcely, avoided contact with people, her poems are influenced by her experiences with them. Unquestionably, Emily Dickinson's writings are deeply influenced by her life experiences.

Both the poems, "Heart! We Will Forget Him!" and "Knows How to Forget" have many things in common. However, the key thing that both have in common is that both poems talk about forgetting. For example, in "Heart! We Will Forget Him!" it says "I will forget the love?" and in the other poem "Knows How to Forget" Undoubtedly, both poems share about forgetting. Also, the titles imply that it's about forgetting, which in each poem is the focus. Unquestionably, the poem "Heart! We Will Forget Him!" and "Knows How to Forget" have many things in common. *the*

The two poems by Emily Dickinson are similar, they also have *their* differences. Although both poems are talking about forgetting, each is talking about forgetting in a different way. In the poem "Heart! We Will Forget Him!" it's talking about a person who fell in love with a man and is trying to forget him. Meanwhile in the other poem, it says "Knows how to forget. But could I teach it?" For this poem it's talking about how to forget. Both poems are different. Although both poems are talking about forgetting, each is talking about forgetting in a different way and perspective. All in all, both of Emily Dickinson's poems contrast in how forgetting is used in the poem.

In conclusion, both the poem "Heart! We Will Forget Him!" and "Knows How to Forget" by Emily Dickinson were pieces of work that was influenced by her life experiences, and both are similar and contrast in many ways.

**Social Science /History
Open Response**

Explain how the article and the spiritual show John Brown's commitment to the welfare of black people. Support your answer with relevant and specific information from the article and the spiritual.

[illegible]

John Brown's Body - Title

John Brown's body lies a-mould'ring in the grave,
John Brown's body lies a-mould'ring in the grave,
John Brown's body lies a-mould'ring in the grave,
His soul is marching on. - Lives on

genre: spiritual
rather strange almost sounds haunting

5

Glory, glory, hallelujah!
Glory, glory, hallelujah!
Glory, glory, hallelujah!
His soul is marching on!

- praising Brown

10

The stars of heaven are looking kindly down,
On the grave of old John Brown.

Good thing - God is looking down kindly

He's gone to be a soldier in the army of the Lord,
His soul is marching on.

hardcore, noble
other life

2. virtuous - nob a piece

John Brown died that the slave might be free,
But his soul goes marching on.

OR
virtuous noble
fought for others,
selfless

(\$#35)

20 November 2012
Map for Answering Open Response

Thesis Statement

In the article "John Brown" and the spiritual "John Brown's Body", John Brown's commitment to the welfare of black people is depicted through his direct interaction with blacks, his radical stand against proslavery forces, and his attempt to free slaves that costed his death.

"Brown" offered to establish his own home there and teach his neighbors how to farm the rocky soil.

Article (10-13)
Body Paragraph 1

"In retaliation for an attack on the free-soil town of Lawrence, Brown led a small party of men to the homes of proslavery settlers."

Article (14-15)
Body Paragraph 2

"John Brown died that the slave might be free."

Spiritual (13)
Body Paragraph 3

Concluding statement

Though the help he gave black's directly, his use of violence against proslavery forces, and the cause he first trying to help free slaves, the commitment John Brown had for the welfare of black people is shown in the article "John Brown" and the spiritual "John Brown's Body."

In the article "John Brown" and the spiritual "John Brown's Body", John Brown's commitment to the welfare of black people is displayed through his direct interaction with blacks, his radical stand against slavery and its forces, and his attempt to free slaves that caused his own death.

Unlike most abolitionists of his time, John Brown physically and personally interacted with blacks. After Gerrit Smith donated 120,000 acres of his land to black families, "Brown... offered to establish his own home there and teach his ^{neighbors} how to farm the rocky soil." During this time, it was seen as taboo for whites and blacks to interact on such a personal level. Brown actually lived amongst and physically helped blacks, as opposed to most abolitionists, who only helped from afar. Brown is willing to break a strict social taboo and go ^(times 15) *Great job!* *yes* farther than others to help black people.

John Brown took a very controversial stand against proslavery forces in Kansas. This stand would include the murder of five men. The article states that "...In retaliation for an attack on the free settlement of Lawrence, Brown led a small party of men to the homes of proslavery settlers..." (Lines 14-15). Most abolitionists took a nonviolent approach to these forces, which many felt were inefficient, but, despite the ^{violent} controversy, Brown took a stand he felt made a change. Brown didn't let the general public's disapproval of his actions stop him from fighting against proslavery forces.

Even though it eventually led to his death, John Brown tried to stir
 sales so that they could plant a successful insurrection. Even though the
 raid of the arsenal, Harper's Ferry, was unsuccessful, the spiritual
 recalls the incident with "John Brown died that the slave might be free."
 (Line 13) Brown risked his life so to help slaves gain their freedom,
 and although his plan was flawed, the spiritual hailed it as a noble act
 of selflessness. Brown fought until the end of his life for the welfare of
 slaves. Through the help he gave blacks directly, his use of violence against
 slaveholders and the damage he met trying to help free slaves, the commitment John
 Brown had for the welfare of black people is shown in the article "John Brown" and
 the spiritual "John Brown's Body."

Conclusion
 is a
 restatement

Chances of Exoplanet Life 'Impossible'? Or '100 percent'?
By Ian O'Neill | Thu Feb 3, 2011 08:48 PM ET

Discovery News

Just in case you haven't heard, our galaxy appears to be teeming with small worlds, many of which are Earth-sized candidate exoplanets and dozens appear to be orbiting their parent stars in their "habitable zones."

Before Wednesday's Kepler announcement, we knew of just over 500 exoplanets orbiting stars in the Milky Way. Now the space telescope has added another 1,235 candidates to the tally -- what a difference 24 hours makes.

Although this is very exciting, the key thing to remember is that we are talking about exoplanet candidates, which means Kepler has detected 1,235 exoplanet signals, but more work needs to be done (i.e. more observing time) to refine their orbits, masses and, critically, to find out whether they actually exist.

But, statistically speaking, a pattern is forming. Kepler has opened our eyes to the fact our galaxy is brimming with small worlds -- some candidates approaching Mars-sized dimensions!

Before Kepler, plenty of Jupiter-sized worlds could be seen, but with its precision eye for spotting the tiniest of fluctuations of star brightness (as a small exoplanet passes between Kepler and the star), the space telescope has found that smaller exoplanets outnumber the larger gas giants.

Needless to say, all this talk of "Earth-sized" worlds (and the much hyped Earth-like misnomer has added fuel to the extraterrestrial life question: If there's a preponderance of small exoplanets -- some of which orbit within the "sweet-spot" of the habitable zones of their parent stars -- could life as we know it () also be thriving there?

Before I answer that question, let's turn back the clock to Sept. 29, 2010, when, in the wake of the discovery of the Earthlike planet Gliese 581 g, Steven Vogt, professor of astronomy and astrophysics at University of California Santa Cruz, told Discovery News: "Personally, given the ubiquity and propensity of life to flourish wherever it can, I would say that the chances for life on [Gliese 581 g] are 100 percent. I have almost no doubt about it."

Impossible? Or 100 Percent?

As it turns out, Gliese 581 g may not actually exist -- an excellent example of the progress of science scrutinizing a candidate exoplanet in complex data sets as my Discovery News colleague Nicole Gugliucci discusses in "Gliese 581 g and the nature of science" -- but why was Vogt so certain that there was life on Gliese 581 g? Was he "wrong" to air this opinion?

Going to the opposite end of the spectrum, Howard Smith, an astrophysicist at Harvard University, made the headlines earlier this year when he announced, rather pessimistically, that aliens will unlikely exist on the extrasolar planets we are currently detecting.

"We have found that most other planets and solar systems are wildly different from our own. They are very hostile to life as we know it," Smith told the UK's Telegraph.

Smith made comparisons between our own solar system with the interesting HD 10180 located 127 light years away. HD 10180 was famous for a short time as being the biggest star system beyond our own, containing five exoplanets (it has since been trumped by Kepler-11, a star system containing six exoplanets as showcased in Wednesday's Kepler announcement).

One of HD 10180's worlds is thought to be around 1.4 Earth-masses, making it the smallest detected exoplanet before yesterday. Alas, as Smith notes, that is where the similarities end; the "Earth-sized" world orbiting HD 10180 is too close to its star, meaning it is a roasted exoplanet where any atmosphere is blasted into space by the star's powerful radiation and stellar winds.

The Harvard scientist even dismissed the future Kepler announcement, pointing out that upcoming reports of habitable exoplanets would be few and far between. "Extrasolar systems are far more diverse than we expected, and that means very few are likely to support life," he said.

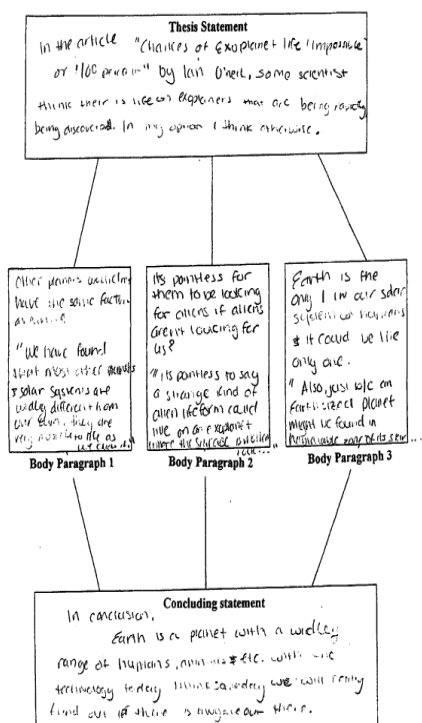
Both Right and Wrong

So what can we learn about the disparity between Vogt and Smith's opinions about the potential for life on exoplanets, regardless of how "Earth-like" they may seem?

Critically, both points of view concern Earth-Brand™ Life (i.e. us and the life we know and understand). As we have no experience of any other kind of life (although the recent eruption of interest over arsenic-based life is hotly debated), it is only Earth-like life we can realistically discuss.

Science Open Response

Map for Answering Open Response



"Chances of Exoplanet life" -Open Response

Some scientist think that there is life on the exoplanets that are rapidly being discovered. In an open response essay, state whether you agree with that idea or not. Support your position with at least 3 pieces of evidence and use the graphic organizer provided.

In the article, "Chances of Exoplanet life 'Impossible' or '100 percent'" by Ian O'Neill, some scientists think that there is life on the exoplanets that are rapidly being discovered. On the other hand, I disagree with that statement.

The first reason why I disagree with that statement is that there may be life out there, but unlike Earth, other planets don't have the same factors as Earth does to inhabit it. In the article it states, "We have found that most other planets & solar systems are wildly different from our own. They are very hostile to life as we know it." Other planets most likely don't have the same atmosphere like we do so they couldn't support life.

The second reason why I disagree with the scientists' statement is that it's pointless for them to be looking for aliens when aliens aren't looking for us. In the article it states, "It's pointless to say a strange kind of alien life form could live on an exoplanet where the surface is molten rock & constantly bathed in extreme stellar radiation, if there were any life form out there... how would they survive?"

Finally, the last reason why I disagree with the statement made by the scientists is that Earth is the only planet in our solar system that has life. What makes them think that other planets have life? In the article it states, "Also, just like Earth, a small planet might be found in the habitable zone..." There are other planets out there that are like Earth, doesn't mean it's habitable.

In conclusion, Earth is a planet with a wide range of life on it. With the technology we have today, I think one day we will really find out if there really is life on other planets out there.

Why Do I Have to Take Algebra?

Students frequently question the usefulness of algebra, and express various objections to "having" to take an algebra class. But do these objections stand up under scrutiny?

"I don't need algebra, because I'm not going to college": There was a time not so long ago when children in middle schools were assigned to "tracks" according to what "everybody knew" each child would "need". (This tracking was why middle schools were invented in the first place.) Educational "experts" presumed to "know" what the various children "needed", based on culturally-based (but unjustified) presumptions. The educators then locked children into "appropriate" tracks, thereby locking many children out of college before they'd even begun high school.

It might have been assumed, for instance, that Shaniqua would be pregnant by the time she was fourteen, Jamal would be in prison, José would grow up to be a pool-boy, and Maria would be a maid. So these students would have been assigned to something like "consumer math": low-level math that was presumed to be "useful" for "that sort". Blonde, blue-eyed Tiffany might have been expected to marry well after a short and trivial "career", so she'd have been assigned to bookkeeping. Only Eustace James Whittington III would have had any chance of attending college, so only he would have been steered into the algebra class.

I would hate to see a return to those days, and I can't understand why any student would volunteer to put himself into the position that used to be forced on many women and minorities. Even if college isn't currently in your plans, please don't under-value yourself by classifying yourself as "that sort" by thinking that you could never use algebra. Don't diminish your potential by rejecting mathematics.

"Having to take algebra is stupid": Did you ever notice that nobody asks why he "has" to take English lit or phys-ed? But math and science are much more crucial to the basis of a modern technological society than are Moby Dick or the rules to dodge-ball. So why do we only hear complaints about math and science? Perhaps because they're hard...? Because they require work and discipline...? Because they aren't always "easy"...?

Modern educationist philosophy in America seems to say that education has to be "fun" and "entertaining" to be justifiable. Today's students often absorb the ethic that, unless a thing is easy, they shouldn't have to bother. But most worthwhile things in life are going to require some effort. If you

want that great job, that interesting career, that open-ended future... you're almost certainly going to need some mathematical skills. And algebra is the basis, the foundation, the tool-box for those skills.

"I'm only taking this class because the university makes me!": Let's be brutally honest here. The university didn't put a gun to your head and make you enroll. You decided you wanted their degree. You wanted their piece of paper.

Why? Probably so you could (eventually) get a better job. In order to get that job, you need at least some subset of the skills which are taught in algebra. You might be right that you'll never factor another quadratic in your entire life. But you want the university's piece of paper, so you're going to have to jump through the hoops required to get it. The algebra class is one of those hoops. If you don't want to jump through the hoop, that's fine; but you won't get the piece of paper. It's your choice.

"But I won't need this stuff for my job!": A big difference between a student with an education and a worker with some training is the expectation that the student will have a deeper level of understanding, a broader base of knowledge, and a greater ability to build connections.

Will you, to a certainty, need everything taught in algebra? No. Does this mean that you should drop out of school now, get a job, and get only the training which is specific to your position?

"I can't drop out!", you reply, "I can't get that job unless I have a college degree." Ah. So, to get the job you want, you need to demonstrate proficiency in basic job skills. To demonstrate that proficiency, you need a degree. To get the degree, you need algebra. In other words, you do need this stuff for your job.

"Then I really will need algebra for 'real life'!": Maybe. Maybe not.

Consider the frequency with which "non-traditional" returning students have to take remedial math classes. The fact that they are taking algebra now, all these years past high school, strongly suggests that they haven't used algebra much in the years since they graduated. They got this far in life without algebra. But does that mean you shouldn't take algebra now?

The very fact that middle-aged folks are going back to college tells you that they need more than what they'd previously been using in "real life". To move on, to move up, they need an education—they need

algebra. Take the hint.

"But why, exactly, do I have to take this stuff?": I have no idea. I don't know what degree you're pursuing; what your plans, hopes, or dreams are; or what your future might hold.

But consider: You didn't learn your alphabet all those years ago because you knew you'd be reading Moby Dick this semester. In the same way, you know you'll take algebra now because you know that you'll be factoring quadratics in ten years. You should take math and science courses now for much the same reason you learned your letters back then: to lay the foundation for bigger and better things to come, and to open up new opportunities for future pleasures and successes.

Nobody can say with assurance what skills will be needed twenty years from now. But what intelligent person would want to cut himself off from future opportunities and growth by refusing to expose himself to at least some of the knowledge which will be foundational for whatever is yet to come?

Even in the short term, you'll need some of the skills from algebra. If you're going to work with formulas in spreadsheets, you'll need to be comfortable with variables and formulas. That's algebra. If you're going to be in meetings involving reports with tables, charts, and graphs, you'll need to be able to interpret these intelligently if you hope to hold your own in the discussions. That's algebra.

"Will algebra even be 'relevant' in the future?": While jobs and their specific skill-sets may change over time, mathematics won't. Twenty years from now, two plus two will still be four, and quadratics will still be either factorable or prime. Whatever job you get will provide the job-specific training you need, but to get that job in the first place, you're going to need some background knowledge and skills. And to be able to keep up with progress, to keep on top of new skill-sets, to move up the ladder, to jump across into a new and better career field, you will need the flexibility of a broad foundation. That foundation includes mathematics.

The philosopher Santayana famously said that "[t]hose who cannot learn from history are doomed to repeat it." This doesn't mean that you'd better memorize all those names and dates, or else long-dead people will rise from the grave and repeat everything they did before. It means that you need to learn the patterns and lessons of history, learn the cautionary tales to be gleaned from the (historical) mistakes of others, or else you

Algebra Open Response

Open Response Reflection Questions

Please first read the article using your active reading strategies. Please use full and complete sentences to support your argument.

1. After reading the article, what is the author's main purpose for writing the article? The main purpose of writing this article is to let people know math and algebra is important in your life. You always gonna need it and use it in life when you have a job you gonna need it when you in college you gonna need it. So it's good to learn it from 1st grade to college. If you don't know math it's not gonna help you in life. And she's trying to get you to like it and do it instead of thinking it's hard and boring.
Good point!
2. List all the arguments the author used to defend her position.
 1. Even if college isn't currently in your plans, please don't under-value yourself by classifying yourself as "that sort" by thinking you can't do algebra.
 2. Why do we only hear complaints about math and science? Perhaps there heard? Because they require work and discipline.
 3. Students often absorb the ethic that unless a thing is easy they shouldn't bother.
add more to it!
3. Do you agree or disagree with the author's opinion? Why or why not? Please justify your answer. Yes I do agree with the author's opinion because math is important in your life and you gonna need it for a lot of things. In school you have to pass math cause it's one of the important subjects in school. So I would try my best in math so I can understand it.

January 11, 2006

Another Chinese Export Is All the Rage: China's Language

By HOWARD W. FRENCH

SHANGHAI, Jan. 10 - Conquering the world is not supposed to be easy, but that's exactly how things must look some days to Xu Lin, head of the government's new effort to promote the Chinese language overseas.

Ms. Xu is creating a global network of Chinese cultural centers, called Confucius Institutes, to teach foreigners throughout the world a language with a forbidding reputation for difficulty. But far from having to round people up, Ms. Xu is finding they are beating down her door.

"There is a China frenzy around the world at the moment," she said. "The launch of this program is in response to the Chinese language craze, especially in neighboring countries."

For decades, people in those countries have viewed China with deep suspicion. But now mastering Chinese as a door to lucrative business opportunities, or simply as a matter of popular fashion, is suddenly all the vogue - not only there but in the United States and Europe as well.

Just as new, though, is the decision of the Chinese government to ride the wave, not just capitalizing on the newfound chic that surrounds the language but also determined to perpetuate it as a way of extending Chinese international influence and good will toward the country.

For some, the choice of a slightly fusty name like Confucius Institute, which evokes images of anything but a rising new power, might seem odd given Beijing's increasing penchant for high-tech imagery and slick public relations. Yet the carefully selected label speaks volumes about the country's soft power ambitions.

Among other things, using the name of the country's oldest and most famous philosopher avoids reference to the official ideology, which remains Marxism. Confucius, who was an educator and quasi-religious figure, also stands for peace and harmony, values that China insistently proclaims today, hoping to disarm fears about its rapid rise.

Judging by the reactions of its long-wary neighbors, the effort appears to be paying off. Indonesia, which for three decades banned the teaching of Chinese because of Beijing's support for Communist rebels, recently lifted the prohibition. Vietnam, which has long had strained ties with Beijing, has accepted a Confucius Institute amid a boom in Chinese language instruction. In South Korea, an American ally that fought alongside the United States in a war against China's troops a half-century ago, Chinese has reportedly outstripped English as the most popular foreign language among students.

"Chinese is as popular in Korea today as English is in China," Ms. Xu said enthusiastically.

Chinese Open Response

6. Another Chinese Export Is All the Rage: China's Language

Based on the article, discuss the importance of two-way communication between the U.S. and China as well as China and other countries. Describe the intent of the Confucius Institutes to better this communication. Citing evidence from the article, predict the effect it may have on U.S.-China relations.

In the article, "Another Chinese Export Is All the Rage: China's Language" by Howard W. French, the importance of two-way communication between the U.S. and China as well as China and other countries is great because of the Confucius Institutes. The intent is to improve relations also.

"Confucius was an educator and a quasi-religious figure, also stands for peace and harmony, values that China insistently proclaims today, hoping to disarm fears about its rapid rise."

"In a 2003 survey of American high schools, the college board found that 50 said they would like to add a advanced placement course in Russian, about 175 said Japanese and 246 said Italian and 246 said they would prefer Chinese."

"One center is already operating in the United States at the University of Maryland and five others are expected to open soon."

In the article, "Another Chinese Export Is All the Rage: China's Language" by Howard W. French, the importance of two-way communication between the U.S. and China as well as China and other countries is great because of the Confucius Institutes, the interest, and future prediction.

To begin, the Confucius Institutes are a great creation for people. I would help people learn more about Chinese, naming it after Confucius for instance. "Confucius, who was an educator and a quasi-religious figure, also stands for peace and harmony, values that China insistently proclaims today, hoping to disarm fears about its rapid rise." Confucius would be better improve relations also.

Also, many people have grown an interest for Chinese. In a 2003 survey of American high schools, the college board found that 50 said they would like to add advanced placement courses in Russian, about 175 said Japanese and 246 said Italian and 246 said they would prefer Chinese. Today many people would love to learn Chinese out of any other language.

Finally, I predict that the Confucius Institutes would have a great impression on the future. For example, "one center is already operating in the United States at the University of Maryland and five others are expected to open soon." This shows that more would help people love China and have great relations. Improving a communication with China and China with other countries is great because of the Confucius Institutes, the interest, and future prediction. In the article, "Another Chinese Export Is All the Rage: China's Language" by Howard W. French.

The Impossible Works of M.C. Escher

April 13, 2010 by curatorial intern



Drawing Hands, 1948. M.C. Escher (1898-1972). Lithograph, 11 1/8 x 13 1/8." Herakleidon Museum, Athens, Greece. All M.C. Escher works © The M.C. Escher Company B.V. - Baarn - the NETHERLANDS

Maurits Cornelis Escher is perhaps one of the world's best known graphic artists. He is famous for his morphing tessellations and "impossible structures" that fool the viewer's eye. During his lifetime (1898-1972), Escher completed 448 lithographs, woodcuts, and wood engravings, as well as more than 2,000 sketches and drawings. One of his sons, George Escher, donated 160 of his father's prints to the National Gallery of Canada.

Escher was born and raised in the Netherlands. His father was a civil engineer and encouraged him to go to the School for Architecture and Decorative Arts in Haarlem (despite that fact that young Escher had failed his high school exams). It was after only one week into his schooling in Haarlem that he decided to study the graphic arts instead of architecture as his father had wanted. His graphic arts teacher, artist Samuel Jessurun de Mesquita, was the one who encouraged him to focus on his extraordinary prints and drawings.

Escher spent years traveling and living in Italy. He was especially interested in drawing the southern Italian landscape, which he used for many of his prints. Further proof that he made the right choice in switching from studying architecture is that although he lived in Rome for years, yet the world-famous architecture was never an interest to him.



Ascending and Descending, 1960. M.C. Escher (1898-1972). Lithograph, 14 x 11 1/2." Herakleidon Museum, Athens, Greece. All M.C. Escher works © The M.C. Escher Company B.V. - Baarn - the NETHERLANDS

Mathematics plays a major role in Escher's work. Surprisingly, he never had any special training in math. He found tessellations particularly fascinating. This form of geometry, also known as regular divisions of the plane, is a collection of a shape repeated over and over on a single plane without any gaps or overlaps. Previously, tessellations were created with rather simple shapes. Escher distorted and manipulated these simple shapes to resemble things such as various animals. In his "Metamorphoses" series, the tessellations "morph" into changing shapes or even leave the plane such as in *Reptiles*. In this lithograph, reptiles seem to be following a continuous cycle in which they "enter" an image of a drawing of a tessellation and then come out of the drawing, walking back around it to the same entrance point.

The Geometry of Art

A conversation with artist Dick Termes, creator of the Termesphere, quickly becomes part geometry lesson, part art lesson.

There's talk of six-point perspectives, dodecahedron three-dimensional puzzles and total visual space. He admits that one student at a Termesphere workshop suffered a "Termesphere headache" trying to understand the dimensional challenges of the sphere.

Most people, however, don't study the geometry of Termespheres in such mathematical depth. Most merely enjoy the uniqueness of a painting wrapped around a giant sphere, hanging from the ceiling.

"I don't want them to be just a geometry piece. I want it to be an art piece," Termes said.

Termes grew up in Spearfish, getting his first taste of art in third grade when his class painted a mural. The experience opened his eyes to the arts and the possibility of a career as an artist.

During a college art class, the Termesphere concept first emerged when a fellow student commented that Termes' painting looked like a ball. Termes decided to paint his next piece on a sphere, out of curiosity. "When I finished it, I thought, well, surely people have been doing this ... because it's so obvious," he said.

He quickly realized that no one was.

"It just seemed very natural to me to explore this," he said. "When you find this dimension, it's hard to go back to a flat surface."

So he never did.

For the past 30-some years, Termes has made a name for himself with his Termespheres, painting images of everything from Lewis and Clark to Shakespeare's Globe Theatre on Termespheres.

He speaks at both art schools and math conferences, and continues to create Termespheres at his dome-shaped studio, which also houses his gallery and home, near Spearfish.

Termes' studio dome epitomizes an artist's space. Drawings, photographs and sketches are pinned here and there. Pairs, brushes and clutter circle the room. Termespheres in various stages are hung from the ceiling. And in the hot spot right now is a new piece, still in the works. It's an exploration of not only images painted on the sphere, but images that can be viewed inside the sphere.

On the new piece, still unnamed, Termes has left clear windows or mirrors into the Termesphere, allowing viewers to see the back side of the image he's painting on the outside.

To accomplish the image, he first painted a geometric design on the ball. Then he painted the back side of his painting, including drawings of people and plant life. Afterward, he covered it with a coat of paint and began painting the front of the image. The result: a viewer can look into the window and see every dimension of the painting's world.

"I play with inside-out complete worlds," he said. "This is going to be a shocker. I think. It's very odd, the things that go on in this piece."

Art Open Response

1. Use this question to form your thesis statement.
2. Actively read (underline or highlight) the article.
3. Use a visual organizer to structure your essay.
4. Using facts from the article, write your essay.
5. Staple everything together to hand in at the end of class.

Question:

Both M.C. Escher and Dick Termes use math within their art work.

(A) Compare and contrast how each artist has incorporated math and art. Cite specific examples.

(B) Who uses math more effectively and why?

In this article I believe that Escher uses math more effectively than Termes.

Escher
 • never had special training in math
 • just found tessellations fascinating

Termes
 • his art as a geometry lesson
 • help benefit children
 • helped the viewer see every dimension
 • helped powerful children

Why
 • Termes was trying to show math in his work
 • his art helps children in geometry
 • his art was a geometry lesson

Conclusion
 As you can see in this article Dick Termes uses math more effectively than M.C. Escher.

In these articles on Dick Termes and M.C. Escher one can say that Dick Termes uses math more effectively than M.C. Escher. M.C. Escher is still a great artist, don't get me wrong. Escher still created the ability to create something no one has seen before with his fascinating impossible tessellations. His way of using objects which can be translated two-dimensionally but are impossible to construct three-dimensionally was something no one has seen before.

As for Dick Termes, he used his art straight through geometry. His art helps his viewers in a geometric way by letting the viewer see every dimension of his art. Dick Termes said that his art isn't just art it's a geometry lesson. His art also can be used to help in challenging kids to explore geometry through art, and you never know if someday those children can be artists themselves.

The reason I chose Dick Termes in this situation over M.C. Escher is that Termes' mathematical art had numerous benefits come from it.

For example, his art such as helping kids with their geometry skills which is a huge benefit. Also, he showed them that you can see geometry in every point of view. As for M.C. Escher, he just found tessellations fascinating and wasn't even specially trained in math.

As you can see, one can say that in these articles I believe that Dick Termes used math more effectively in art than M.C. Escher.

fitness.com
THE GLOBAL FITNESS COMMUNITY

Simple Ways to Prevent Sports Injury



Submitted by whit027, Jul 14 2011
6 Votes

Sports injuries are common among professional and amateur athletes alike. With just a few adjustments to workout routines, many of these injuries can be prevented. Keep your body in top shape by incorporating these simple things into your exercise.

Stretching #1

Stretching before exercise is one of the easiest ways to prevent injury. Stretching keeps the muscles nice and flexible, so when you need to move and extend them during your workout, they'll be ready. Regular stretching will lengthen and strengthen your muscles and ligaments, allowing for more flexibility in your movements.

Stretching is also important after your exercise, as muscles often tighten up after use. Stretching them out will reduce the likelihood of pain and cramping after exercise.

Rest #2

No matter what fitness program you are on, it's important to take time off occasionally and rest your body. By taking a break from your workout, you allow your body to both recover from the exercise and also continue to metabolize food and operate at peak condition.

Rest is especially important if you are recovering from an injury. If you return to your workout routine before your injury is healed, you are likely to exacerbate the problem, possibly resulting in permanent injury. If you have been injured, talk to your doctor (and follow the doctor's advice) about how you can ease back into a safe exercise routine.

Protective Gear #3

Many sports injuries are the result of poor equipment. It is important to always wear appropriate helmets, pads, footwear and mouthguards when playing sports. Always wear the gear recommended for the particular sport you are involved in, and always wear it correctly.

Protective gear works by helping the body absorb impact. This can prevent an impact from becoming a major injury. In many cases protective gear can prevent life-threatening or permanent injuries. In regards to protective gear it pays to be overly cautious: better to wear a helmet you don't need than need a helmet you aren't wearing.

Orthotics #4

Foot orthotics have been found to be an effective form of injury prevention among athletes. Many injuries are caused by bio-mechanical deformities in the feet and legs. Orthotics treat these causes by guiding the feet and legs to step in a more correct and natural way. By running a more natural stride, you use your muscles and tendons the way they were intended to be used, reducing the likelihood of overusing any one part.

Image credit (c) Foot Science International

Wellness/P.E. Open Response

Open Response Questions

Injuries are common when participating in sports and other fitness regimes. What can you do to prevent injuries from occurring and how could you incorporate prevention into your everyday life.

Topic, Thesis

Stretching
- before / after

Rest
- give injury time to heal

Gear
- reduce impact

Orthotics
- gives you longer stride

Conclusion
(wrap up statement)

BROCKTON HIGH SCHOOL WELLNESS EDUCATION DEPARTMENT
MCAS - OPEN RESPONSE

DIRECTIONS: Write your answer to the open response question in the specific area provided.

→ In the article Simple Ways to Prevent Sports Injury there are four ways to prevent sports injuries: stretching, rest, wearing protective gear and something as simple as wearing orthotics.
→ The first way to prevent a sports injury is stretching. Stretching keeps your muscles loose and flexible. So when it comes time for you to play they'll be ready. Along with stretching before, it's also important to stretch after because it will reduce the risk of pain and cramps later on.
→ Second is rest. Most injuries are caused from overuse. It is important to give your body rest in between a workout and also when you are coming back from an injury. Your body needs time to heal and rest.
→ Third is wear protective gear. Protective gear can slow down the impact making it less of a major injury. ... better to wear a helmet you don't need than to need a helmet you aren't wearing. "By wearing protective gear you can prevent permanent and life threatening injuries."
→ Finally, is wearing something as simple as orthotics. "Orthotics treat these causes by guiding the feet and legs to step in a more correct and natural way."
→ You may say this sounds simple but incorporating these things into your daily life can prevent permanent and long term injuries. Stretching before and after can loosen up your muscles, resting can prevent an injury from becoming worse, protective gear can slow down impact and orthotics guide your feet reducing the risk of injury.



**There are ALWAYS
critics...**



**The cookie-cutter
comment**

**The students learn
THINKING ROUTINES!**

**How did we incorporate these
Literacy Skills in every discipline?**

**Even in our discipline
policies and procedures we
incorporate our Literacy
Initiative... remember,
WRITING IS THINKING!**

Name: _____ ID#: _____ House: G R A Y
Date of Incident: _____ Place of Incident: _____
People Involved: _____

 Yes **No**

This image shows a blank sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

1. What actions/steps you could have done to stop you from being sent to the office? If so, what are they? Why did you choose not to do them?
2. What out-of-class problems have happened, or are happening, that would have something to do with this incident? If so, what are they?
3. What rules from the handbook might apply to this situation? How?

Our
Classroom
Incident
form
requires
students to
write when
they come
into the
office

If 7 demerits are assigned for the incident, do you plan on completing a Demerit Buy-Back?

 Yes **No**

People Involved: _____

(Include specific details of the situation, specific words that were used, and names of people involved):

didn't always

1. What actions/steps you could have taken if you choose not to do them?

2. What out-of-class problems have happened, if anything, that would have something to do with this incident? If so, what are they?

3. What rules from the handbook might apply to this situation? How?

**It didn't always work
as we planned!**

Our Classroom Incident

Students to
write when
they come
into the
office



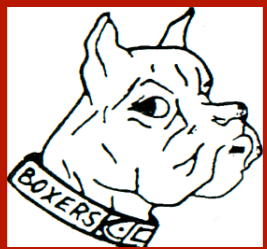
BUT...



Don't think for a moment that everyone was happy...

BUT, if we waited for buy-in, we'd still be waiting.

SO, what did we do?? Meet Sharon and Penny



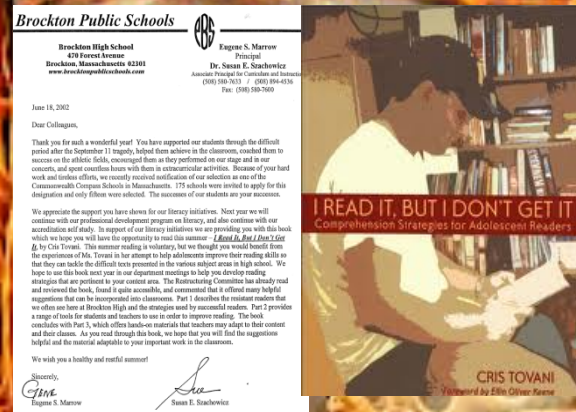
The agenda moved forward



“Whether you read it, or burned it, you still got trained in these literacy strategies.”

**Sharon Wolder,
Principal, Brockton High**

**Some of them really protested
and burned the book!**





Change isn't easy...

Most of our faculty were not book burners, but they were NOT on board. They did it because they had to, AND because they understood we needed to do something to help our students.



BUY IN???. . . .



Here's what gets
the buy-in.

RESULTS!!!

Changes in ELA Results Year One of School Wide Open Response

GRADE 10 - ENGLISH LANGUAGE ARTS

**PERFORMANCE 1998 1999 2000 2001
LEVEL**

ADVANCED	2	2	6	14
PROFICIENT	20	22	21	29
NEEDS IMPROVEMENT	34	35	32	34
FAILING	44	41	41	23

Changes in Math Results Year One of School Wide Open Response

GRADE 10 - MATHEMATICS				
PERFORMANCE LEVEL	1998	1999	2000	2001
ADVANCED	1	2	5	8
PROFICIENT	6	7	11	22
NEEDS IMPROVEMENT	17	16	21	36
FAILING	75	76	64	34

Changes in ELA Results Year One of School Wide Open Response

GRADE 10 - ENGLISH LANGUAGE ARTS

PERFORMANCE 1998 1999 2000 2001
LEVEL

ADVANCED	2	2	6	14
PROFICIENT	20	22	21	29
NEEDS IMPROVEMENT	34	35	32	34
FAILING	44	41	41	23

Added a
Literacy
Workshop on
Active Reading
Strategies:

2002

22

14

25

13



The Achievement Gap Initiative
at Harvard University

HOW HIGH SCHOOLS BECOME EXEMPLARY

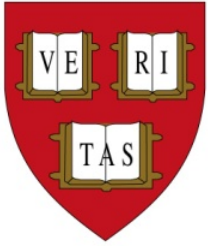


**Listen to what Professor Ferguson
says about us...**

RAISES
AND NARROWS GAPS
IMPROVING INSTRUCTION
IN 15 PUBLIC HIGH SCHOOLS

2009 CONFERENCE REPORT

TOWARD EXCELLENCE WITH EQUITY



- **The Achievement Gap Initiative** At Harvard University
Toward Excellence with Equity
Conference Report by Ronald F. Ferguson, Faculty Director

“The main lesson was that student achievement rose when leadership teams focused thoughtfully and relentlessly on improving the quality of instruction.”

– Prof. Ron Ferguson, AGI Conference Report

Literacy Workshops improved instruction:

- *Open Response Writing Strategies

- *Active Reading Strategies

- *Asking Rigorous Questions

- *Graphing Across the Curriculum

- *Vocabulary Strategies

- *Problem Solving

- *No Opt Out/Everybody Writes

- *Developing Speaking Skills

- *Providing Effective Feedback

- *Quick Writes/Graphic Organizers

- *Reading/Analyzing Visuals



Changing Attitudes:



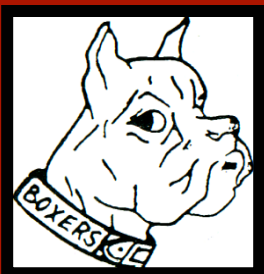
- **Everyone** is responsible for **every** student
- Believing that every student **CAN** and **MUST**
- Our responsibility: to figure out how to help
- **ALL** means **ALL**





Listen to our students!

**Meet Nephie and Tatiana
and listen to what they
have to say about our
school wide Literacy
Initiative**



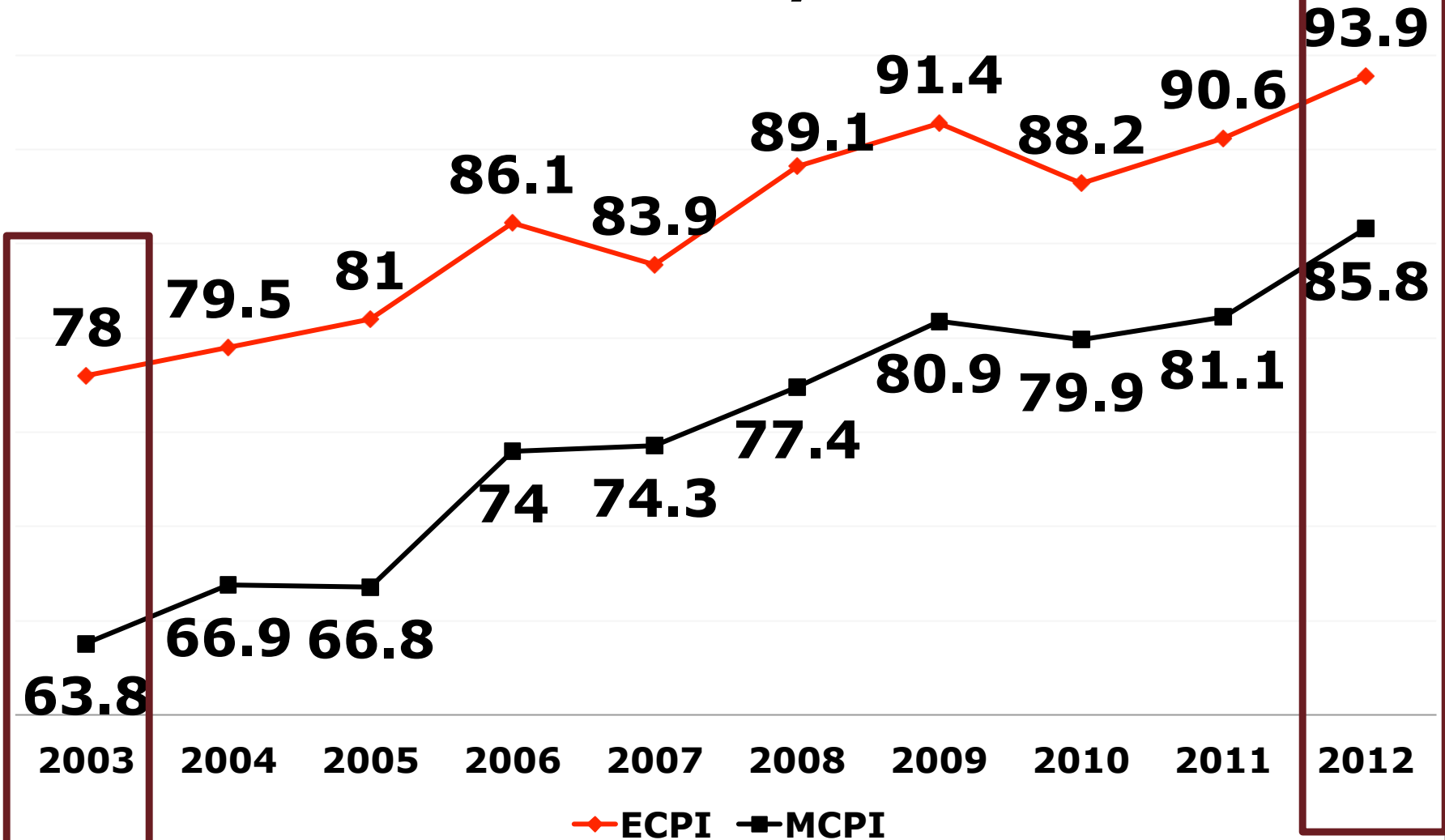
Here's what can happen
when you implement a
school wide initiative:



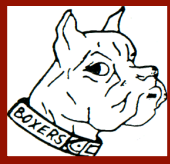
**WICKED
AWESOME
RESULTS!**



Brockton HS Proficiency Index Gains



Composite Performance Index (CPI) measures progress towards the goal of narrowing proficiency gaps

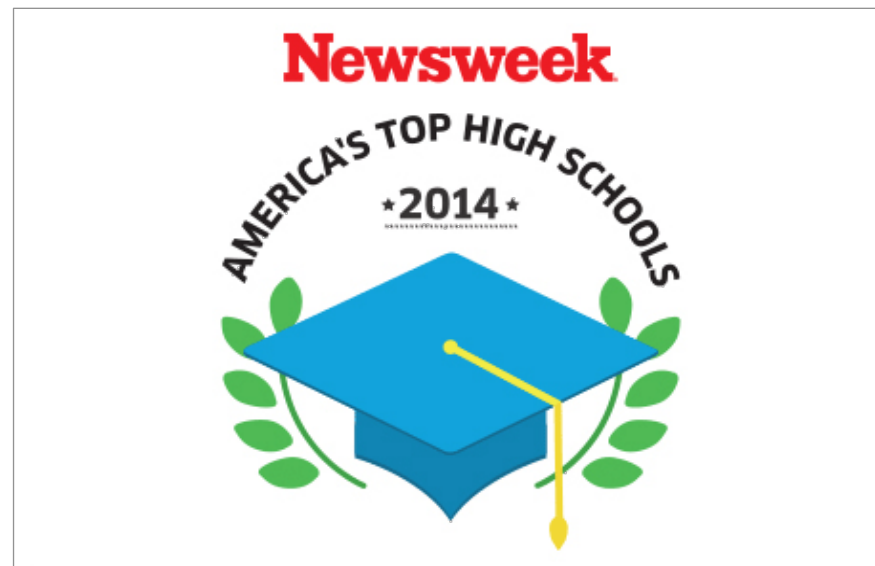


Awards, Awards, Awards!!!



**2008, 2010,
2012, 2013,
2014, 2015,
2016**

Beating The Odds 2014 Top Schools For Low-Income Students



Brockton High School

Brockton, Massachusetts
(508)580-7633

BROCKTON HIGH NATIONAL MODEL SCHOOL



THIRTEEN CONSECUTIVE YEARS!!!

Brockton Public Schools

HAS BEEN NAMED TO THE
**Gaston Caperton Opportunity
Honor Roll 2015**

FOR
**EXPANDING OPPORTUNITY AND ACCESS
TO ALL STUDENTS**



THE GASTON CAPERTON
**Opportunity
Honor Roll 2015**



A handwritten signature in black ink, reading "Douglas L. Christiansen".

Douglas L. Christiansen, Ph.D., Chair of the Board of Trustees,
The College Board

1. Increased the number of underrepresented students who took the SAT®;
2. Increased the number of underrepresented students who took an AP® course and exam;
3. Increased the number of underrepresented students who were on-track for college, as demonstrated by scoring 1550+ on the SAT;
4. Increased the number of underrepresented students who scored a 3+ on an AP Exam; and
5. Increased the number of underrepresented students who sent their SAT scores to at least four colleges.

JOHN & ABIGAIL ADAMS SCHOLARS 2016 Brockton High

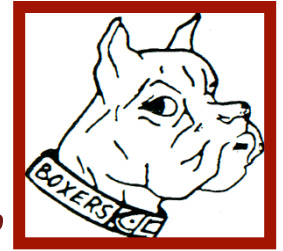
314 SCHOLARSHIP RECIPIENTS

34% of the class! Most ever!!!

Most in Massachusetts!!!



College for ALL: Changing students' beliefs:

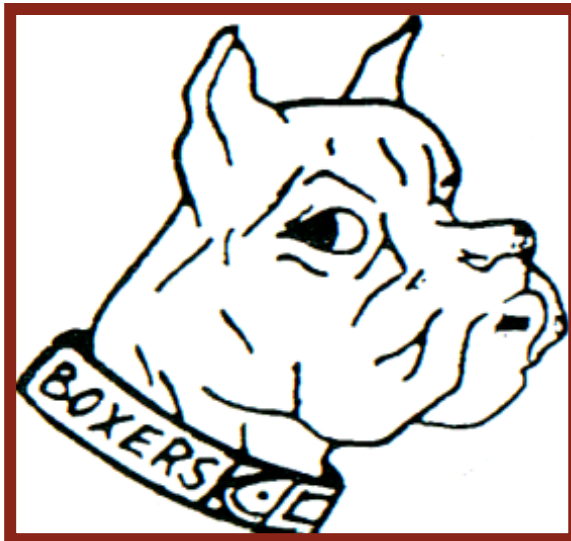


Class of 2016 – over 91%
went off to college!



To THIS!!!

Boxers in the NEW YORK TIMES



High Expectations NO Excuses!!!



September 28, 2010

LESSONS LEARNED **(Sometimes learned** **the hard way...) and** **WORDS OF ADVICE**

Lessons Learned/Words of Advice:

1. **GOOD ENOUGH?** Isn't always good enough
2. **CONTROL:** We have a lot more than we think we do.
3. **FOCUS:** Determine what YOUR students need and be relentless
4. **CONSISTENCY:** We ALL do it “this” way – the power is in the school wide commitment (deliberate practice works!)
5. **PERSISTENCE:** Stay the course, even in the face of resistance – too often in education we give up on things too soon

#1: GOOD ENOUGH?

**Our most effective
question: Is this THE
BEST we can be?**



High Expectations, STUDENTS believe!

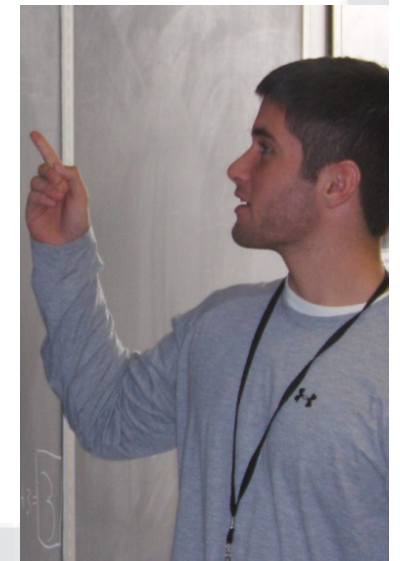
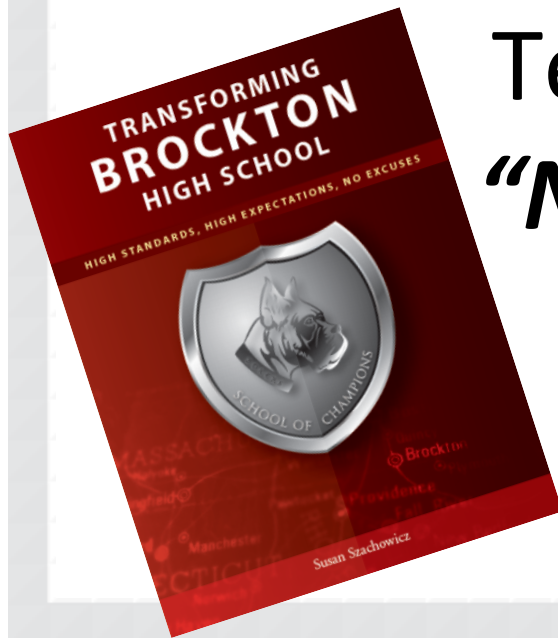
Amarr:

"It's not us against them."



Terrence:

"No one here would let me fail. I know, because I tried to."





High Expectations, FACULTY believe!

“I wasn’t on board with this, but in my Science class my students began to read better, to write better, and then they were learning their biology better. I’m a Science teacher; I need to see the evidence, and I did. The students made me a believer!”

Brockton High Science teacher

Some questions for you...

- ❖ **When you look at your accountability data, where are there gaps?**
- ❖ **If there are gaps, particularly with Sped or ELL, what are you doing to close them?**
- ❖ **Are ALL students challenged, even required, to take rigorous classes - AP, IB? (How would your students answer that?)**

Our Strategies for Closing Gaps

- ❖ From My Kids/Your Kids to **OUR Kids**
- ❖ From Learned Dependence to **Independence**
- ❖ From Shopping List IEPs to **Putting the “I” Back in IEP**
- ❖ Changing the Culture: **All Means ALL and Everybody Wins!**

An example of a “good enough” school that wasn’t satisfied to be “good enough”

Woburn Public Schools Woburn, MA

**They implemented the
Brockton approach, and...**



WMHS Improvements!

% of Students Achieving
Advanced & Proficient

	2015	2016
ELA	93	97
Math	81	84
Science	68	76

WMHS Composite
Performance Index
(CPI)

	2015	2016
ELA	96.3	99
Math	90.8	93.8
Science	87.1	91.0

WMHS Open Response (scoring 2 or above)

2015

	Woburn	State
ELA	83	87
Math	63	66
Science	77	58

2016

	Woburn	State
ELA	85 >2	84
Math	69 >6	66
Science	80 >3	49

Graduation & Dropout Rates - All Students

4 Yr. Graduation Rate:

<u>2014</u>	<u>2015</u>
85.8	93.1

Dropout Rate:

<u>2014</u>	<u>2015</u>
2.7	2.0

Level 3 to 2: What happened?

Data (MCAS,OR,Grad,Drop)

Team (Admin,Teachers,Steering,SC,CC)

Hard Work (Tanner Pride)

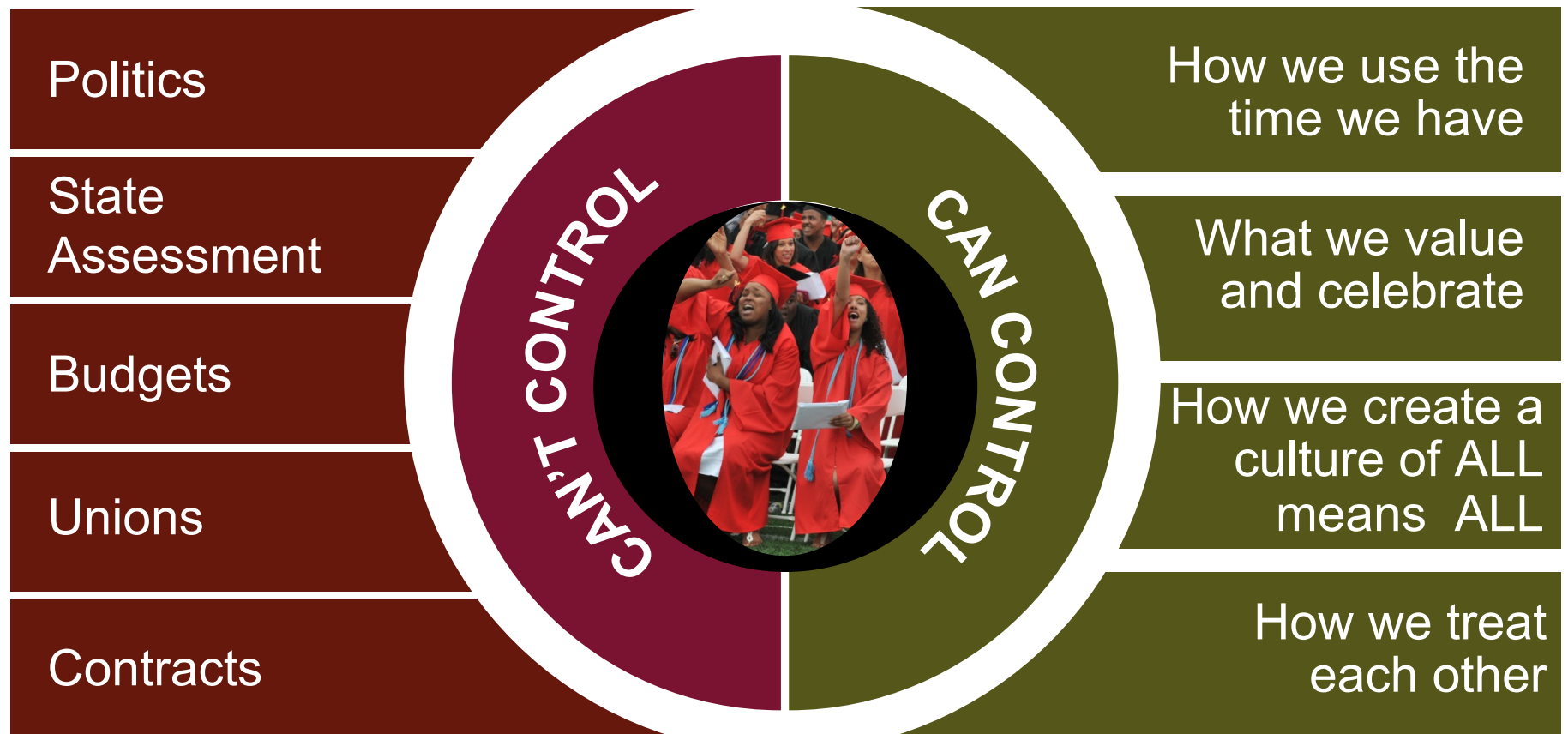
Student Achievement!

*WMHS improved & outperformed
State (& Cohort) in EVERY
SIGNIFICANT CATEGORY

#2: CONTROL

**Figure out what you CAN
control, and what you
CAN'T control!**

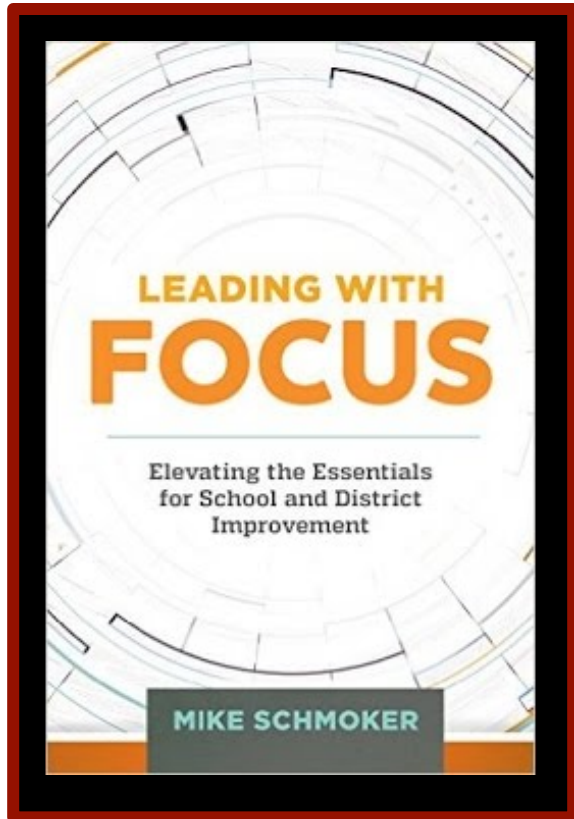
We often have more control than we think we do! Go after what you CAN control!



#3: FOCUS

**Determine what
YOUR students need
and be relentless**

Embrace simplicity



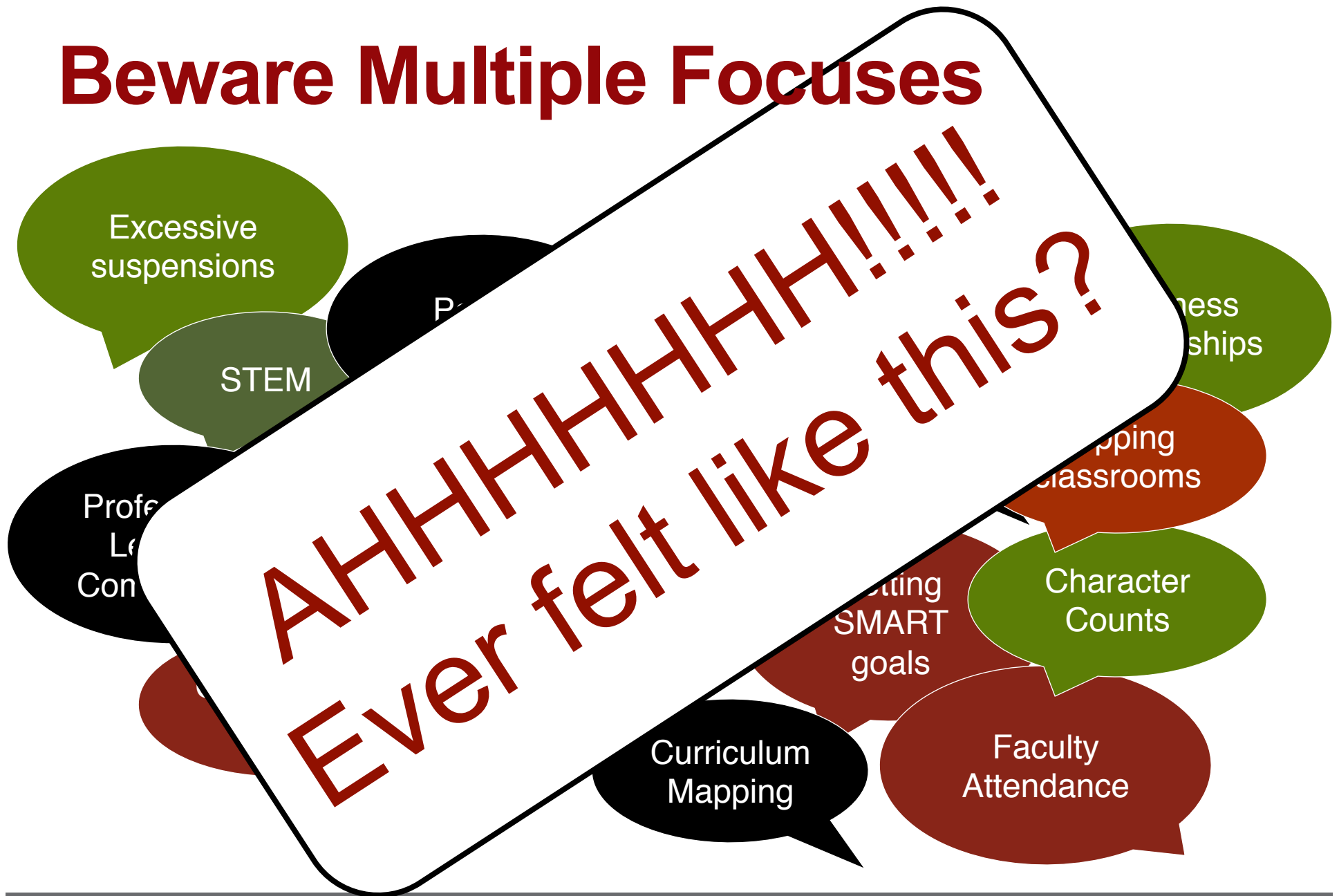
Mike Schmoker in
Leading with Focus

Stated simply by
Schmoker:
***“Focused leadership:
Doing less and doing
it better”***

**Just my opinion...
for what it's worth**

**We face TOO many
initiatives, “Flavor of the
Month” professional
development, always the
NEXT new thing...**

Beware Multiple Focuses



Think about YOUR Data to Prioritize and Determine your Starting Point:

- **Where are your students the weakest?**
- **Where can you help them most?**
- **What gets you the biggest “bang for your buck”?**

Leadership Challenge: FOCUS

1 Write the **focus/mission/purpose** of your school as you would define it in ONE SENTENCE.

2 Would the following stakeholders answer this question in the same way?

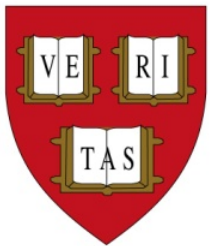
Stakeholder	Yes	No
Faculty		
Students		
Parents		
Community		

#4: CONSISTENCY

**We ALL do it “this” way.
The power is in the school
wide commitment.
Deliberate practice works!**

Quality of Instruction

“The main lesson was that student achievement rose when leadership teams focused thoughtfully and relentlessly on improving the quality of instruction.”



The Achievement Gap Initiative At Harvard University
Toward Excellence with Equity

Conference Report by Ronald F. Ferguson, Faculty Director

Remember:

It's about the adults, not the kids!

We taught ourselves to teach these literacy skills to the students.

And we will ALL do it THIS WAY!

**Does all this work? What do
the students think?**

Meet Fabieny DePina
To see the entire PBS piece,
go to YouTube and search
PBS Need to Know
Brockton High

When we all work together consistently and effectively

- Expectations are clear
- Students practice important skills repeatedly in relevant ways
- Rigor increases
- Results improve



#5: PERSISTENCE

**Stay the course, even in the face of resistance. Too often in education we give up on things too soon.
(Yet another thing...)**

**Just my opinion...
for what it's worth**

**We have to resist the “we’ve
done this for awhile, let’s move
on to something else now.”
If we’re sure it’s working, we
have to stick with it.**

Too often we are like these guys...



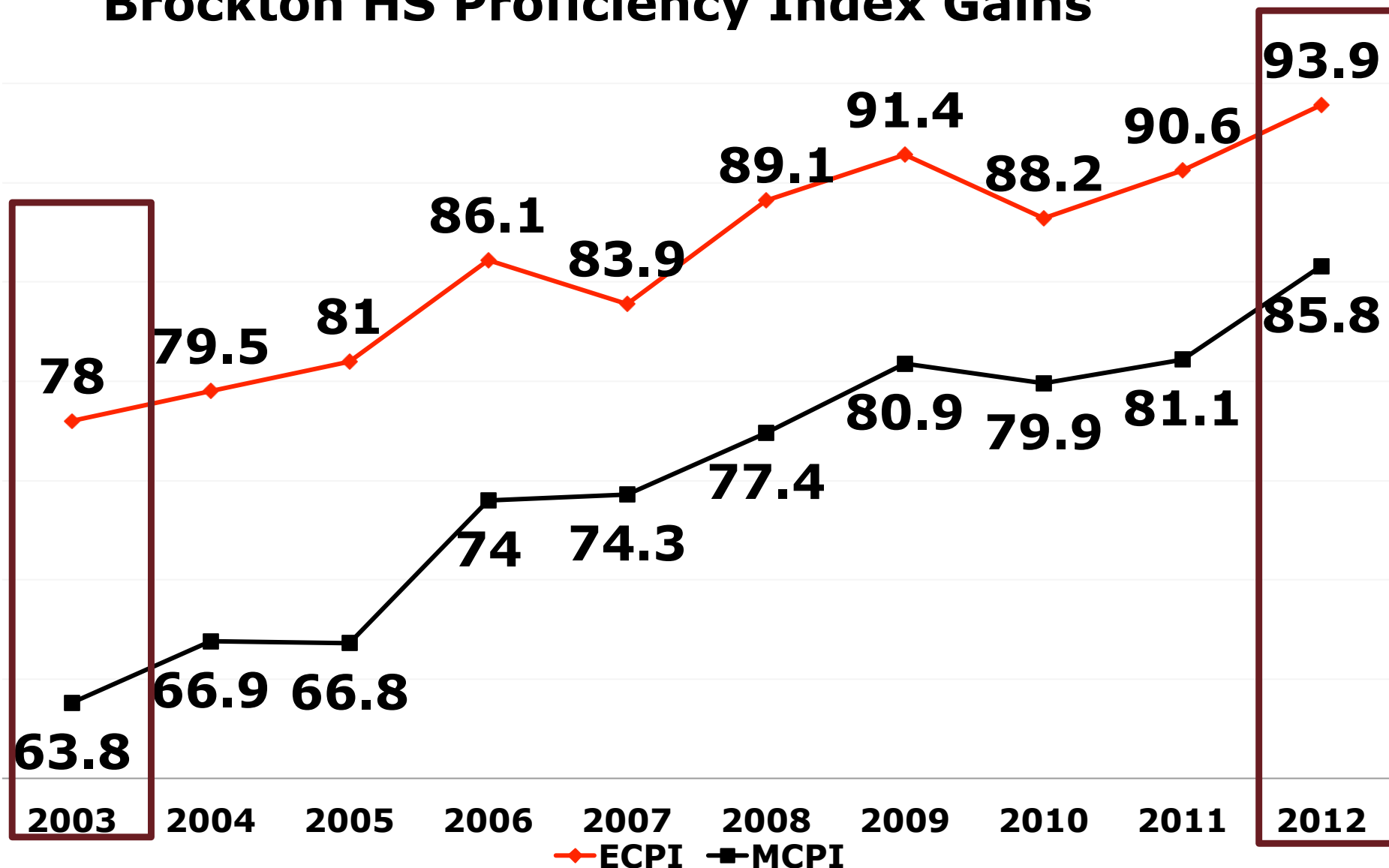
By Clark & Vizdos

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We HAVE to keep paddling!!!

PERSISTENCE PAYS OFF!!!

Brockton HS Proficiency Index Gains



Composite Performance Index (CPI) measures progress towards the goal of narrowing proficiency gaps

Massachusetts School and District Profiles

Brockton High

2016 Accountability Data - Brockton High

Organization Information			
District:	Brockton (00440000)	School type:	High School
School:	Brockton High (00440505)	Grades served:	09,10,11,12
Region:	Commissioner's Districts	Title I status:	Non-Title I School (NT)

Accountability Information		About the Data
Accountability and Assistance Level		
Level 1	Meeting gap narrowing goals	
This school's overall performance relative to other schools in same school type (School percentiles: 1-99)		
All students:	<div><div></div></div>	36
	Lowest performing	Highest performing

This school's progress toward narrowing proficiency gaps (Cumulative Progress and Performance Index: 1-100)			
Student Group (Click group to view subgroup data)	On Target = 75 or higher - ■		View Detailed 2016 Data
	Less progress	More progress	
All students		82	Met Target
High needs		95	Met Target
Econ. Disadvantaged		-	-
ELL and Former ELL		78	Met Target
Students w/disabilities		74	Did Not Meet Target
Amer. Ind. or Alaska Nat.		-	-
Asian		-	-
Afr. Amer./Black		87	Met Target
Hispanic/Latino		67	Did Not Meet Target
Multi-race, Non-Hisp./Lat.		-	-
Nat. Haw. or Pacif. Isl.		-	-
White		85	Met Target

RECAP: Lessons Learned/Advice:

- 1. GOOD ENOUGH?** Isn't always good enough
- 2. CONTROL:** We have a lot more than we think we do.
- 3. FOCUS:** Determine what YOUR students need and be relentless
- 4. CONSISTENCY:** We ALL do it "this" way – the power is in the school wide commitment (deliberate practice works!)
- 5. PERSISTENCE:** Stay the course, even in the face of resistance – too often in education we give up on things too soon

**But WAIT... there is ONE more
important lesson
(maybe the most important one):**

HUMOR HUMOR HUMOR!!!

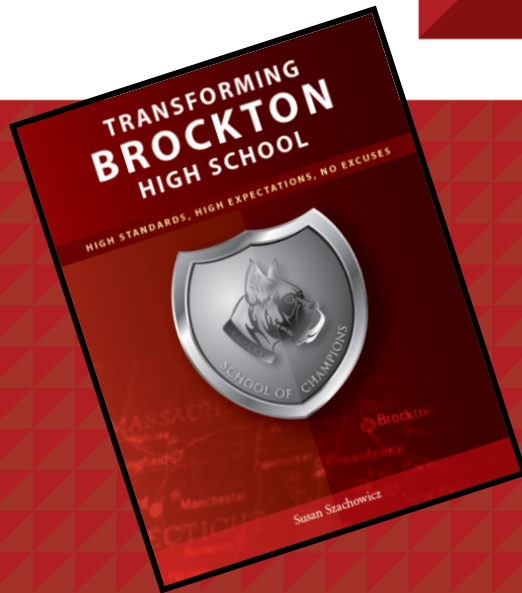
**You HAVE to laugh
every day...**

**After all, you just can't
make this stuff up!!!**

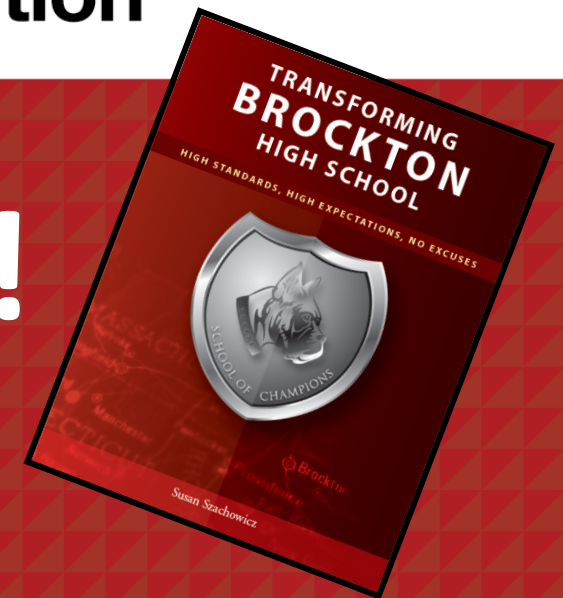
WE DO MAKE A DIFFERENCE!!!



International Center for
Leadership in Education



Thank You!!!



**Sue Szachowicz, Senior Fellow ICLE,
Brockton High Principal (retired)**