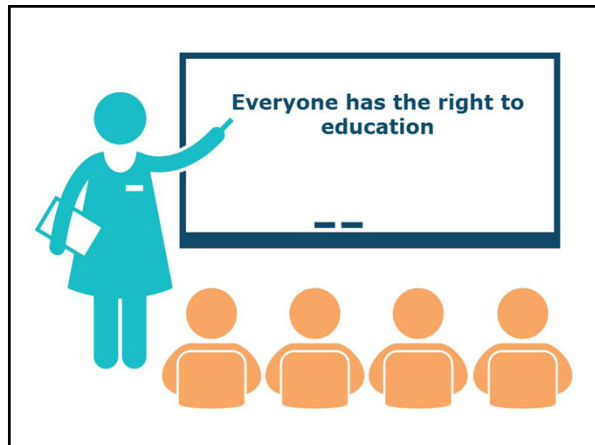


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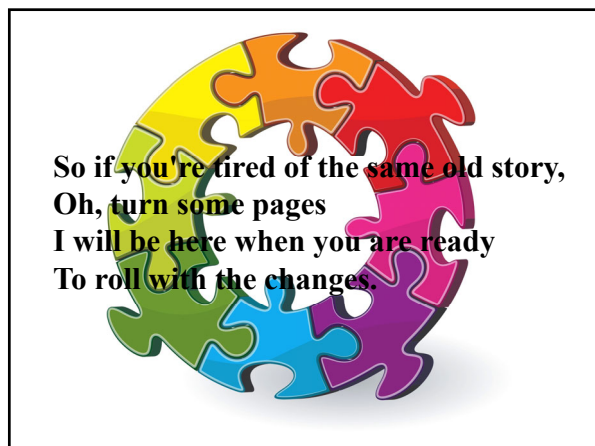
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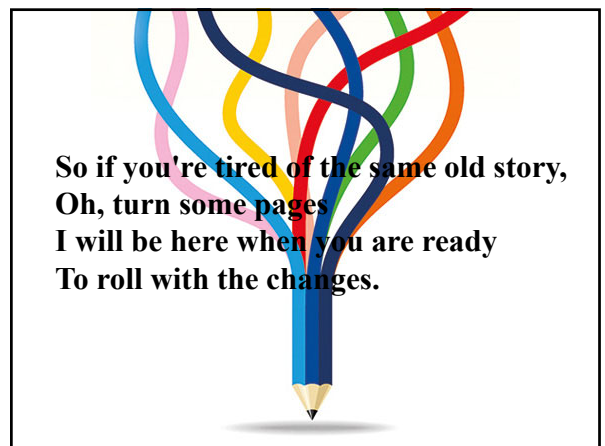
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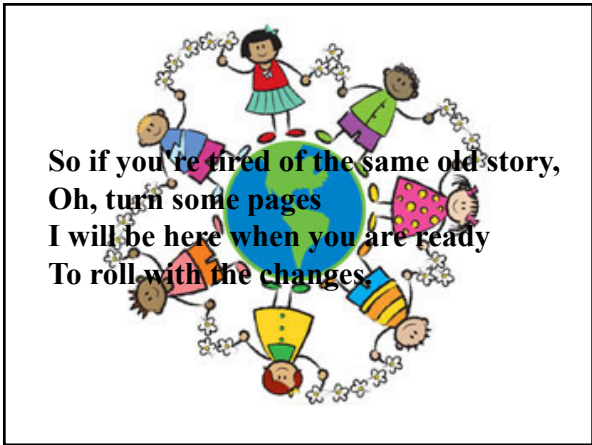
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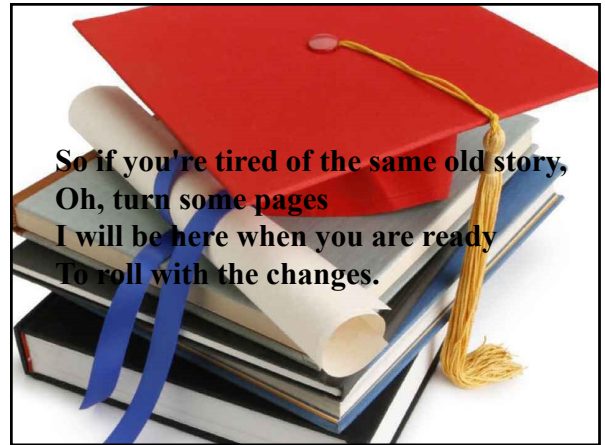
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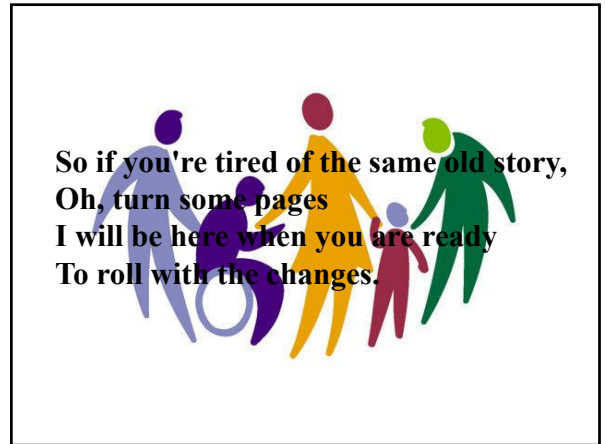
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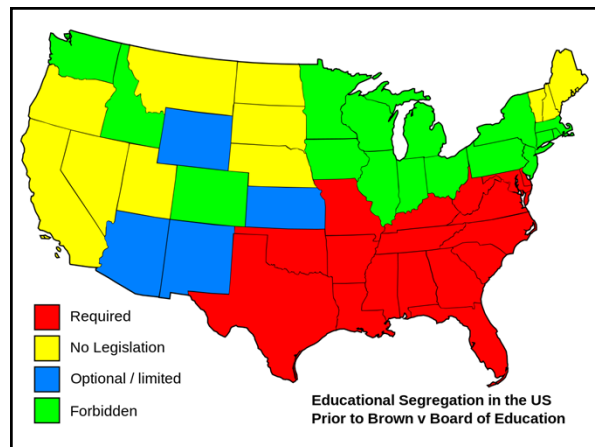
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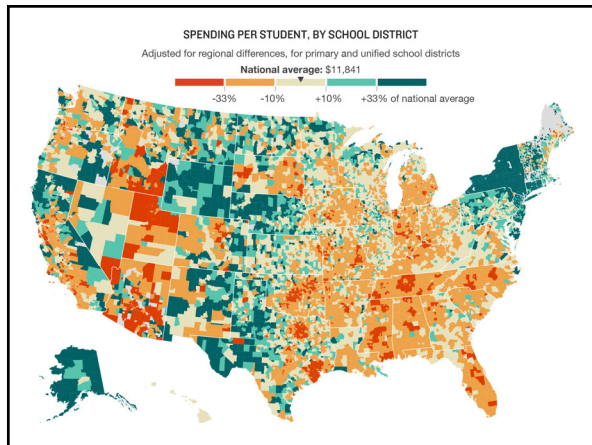




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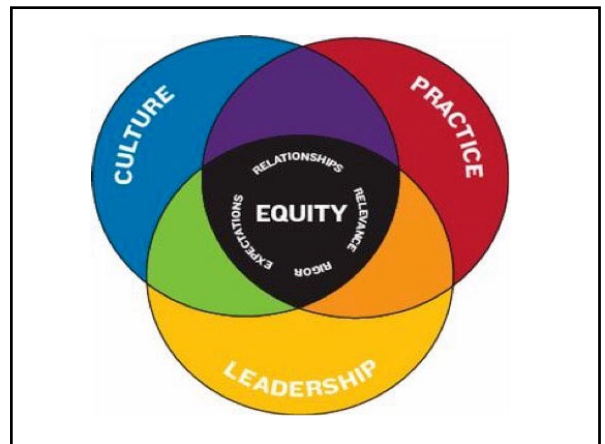
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## We Have Already Built the Wall In and Between Our Schools

NWMC 2019



**Chris Shore**  
The Math Projects Journal  
Murrieta Valley USD

shore@mathprojects.com  
@MathProjects  
#NWMC19  
#mathequity

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## Challenge Accepted

**“White = Content.  
Non-White = Equity.”**

-- Sunil Singh  
*Ideas of Math Equity Must Come From White People*






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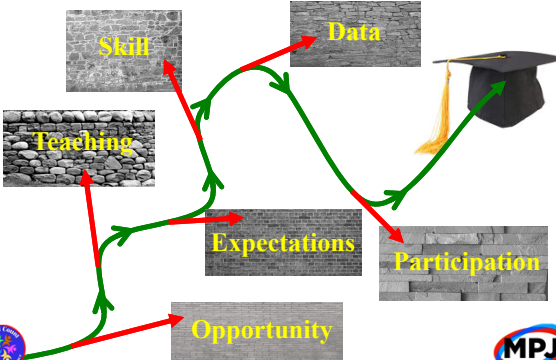


## My Story






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## Table of Contents







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## Chapter One



The Opportunity Gap






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## Once Upon a Time...

← 40.10% →

Math	# Students	Exceeded	Met	Nearly Met	Not Met
Econ Disadv.	193	8.85	31.25	26.04	33.85
Non-Econ Dis.	560	12.14	29.11	32.5	26.25

← 41.25% →




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## The Subplot of the Sub-Groups

### 11<sup>th</sup> Graders

Math	# Students	Exceeded	Met	Nearly Met	Not Met
African American	44	0	30%	29.55	20.45
Hispanic	282	7.8	31%	23.76	35.46
White	265	10.23	41%	30.68	32.58
Asian	25	36	80%	44	8
Filipino	57	28.07	65%	36.84	29.82
Two or More	79	13.92	52%	37.97	22.78

“Is this an access issue?”



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## Our Old Pathways

Middle School

Math 6 – Math 7 – Math 8

Math 7 – Math 8 – Alg 1

Math 7 – Alg 1 – Geom


High School

Alg 1 – Geom – Alg 2 – PreCalc

Algebra – Int 1 – Int 2 Essentials

Geom – Alg 2 – PreCalc – Calc AB

Alg 2 – PreCalc – Calc AB – Calc BC or Alg 2+ – Accel – Calc BC – Calc D/ PreCalc IB HL



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## Our New Pathways

Middle School

Math 6 – Math 7 – Math 8

Math 7 – Math 8 – Alg 1

Math 6/7 – Alg 1 – Geom

High School

Alg 1 – Geom – Alg 2 – PreCalc


No more tracking

No D's

Geom – Alg 2 – PreCalc – Calc AB

Alg 2 – PreCalc – Calc AB – Calc BC or Alg 2+ – Accel – Calc BC – Calc D/ PreCalc IB HL

“Same Train, Different Boxcars.”



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## The Road to Inequity


Is ethnicity influencing in which math class 9<sup>th</sup> graders are enrolled?

9<sup>th</sup> Graders 2017-18

	Hispanic	Indian	Asian	Black	Islander	White	Two Races	Total
Alg 1 Ext	3%	0%	0%	10%	25%	4%	7%	4%
Alg 1	84%	0%	61%	77%	75%	74%	71%	70%
Geometry	11%	0%	24%	10%	0%	15%	14%	14%
Algebra 2+	3%	0%	13%	3%	0%	7%	9%	6%
Accel/PreCalc	0%	0%	3%	0%	0%	0%	0%	0%
Total	275	0	71	31	4	225	58	331

	Algebra 1 Ext	Algebra 1	Geometry	Algebra 2+	Accel PreCal	Total
Hispanic/Latino	33%	45%	32%	19%	0%	41%
Indian or Alaskan	0%	0%	0%	0%	0%	0%
Asian	0%	8%	19%	24%	67%	11%
Black	11%	5%	3%	3%	0%	5%
Pacific Islander	4%	1%	0%	0%	0%	1%
White	37%	33%	37%	41%	33%	34%
Two or more Races	15%	8%	9%	14%	0%	9%
Total	27	507	90	37	3	664



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## The Road to Inequity

Behavior	1	2	3	4
Adaptive Level	na	A	na	na
Other adaptive	na	na	na	na
Independent Worker	YES	or	NO	
SPED	na	na	na	na
Interests	na	na	na	na
Skills	na	na	na	na
McLaren's (QEP)				
Ever been in a combat	YES	or	NO	
Student a good candidate for e-				
Upper combat	YES	or	NO	
Lower combat	YES	or	NO	
Ever released	YES	or	NO	
SS/IG	YES	or	NO	
Parent Volunteer	YES	or	NO	
Needs extra support	YES	or	NO	
Work Completion	YES	or	NO	
Time on Task	YES	or	NO	
Reflection	YES	or	NO	
Parent	YES	or	NO	
Others:				
Special concerns				

Behavior	1	2	3	4
Adaptive Level	na	A	na	na
Other adaptive	na	na	na	na
Independent Worker	YES	or	NO	
SPED	na	na	na	na
Interests	na	na	na	na
Skills	na	na	na	na
McLaren's (QEP)				
Ever been in a combat	YES	or	NO	
Student a good candidate for e-				
Upper combat	YES	or	NO	
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Needs extra support	YES	or	NO	
Work Completion	YES	or	NO	
Time on Task	YES	or	NO	
Reflection	YES	or	NO	
Parent	YES	or	NO	
Others:				
Special concerns				

**The influence of  
parents,  
veteran teachers,  
&  
the combo class?**

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## The Road to Inequity

### 5<sup>th</sup> Grade Enrollments

School A	Asian	Latino	Black	White
Teacher A	3%	66%	21%	10%
Teacher B	12%	46%	12%	31%
Teacher C	11%	78%	4%	7%
Teachers D & E	30%	60%	10%	0%
School	11%	63%	12%	14%

School B	Asian	Latino	Black	White
Teacher A	30%	41%	4%	26%
Teacher B	14%	25%	4%	57%
Teacher C	24%	20%	12%	44%
Teachers D	37%	30%	3%	30%
Teachers E	11%	22%	11%	56%
Teachers F	21%	41%	7%	0%
School	24%	28%	8%	41%

### 3<sup>rd</sup> Grade Enrollments

School C	Asian	Latino	Black	White
Teacher A	5%	14%	0%	82%
Teacher B	13%	35%	0%	52%
Teacher C	18%	41%	0%	41%
Teachers D	18%	41%	0%	41%
Teachers E	13%	39%	4%	43%
Teachers F	23%	41%	0%	36%
Teachers G	9%	39%	0%	52%
School	14%	34%	1%	51%

We do start dividing them,  
before they start dividing.

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## The Road to Inequity

Is ethnicity influencing in which math class 11<sup>th</sup> graders are enrolled?

**“We are leaking students of color.” – Matt Larson**

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## The Road to Inequity

Is ethnicity influencing in which math class 11<sup>th</sup> graders are enrolled?

	9th	10th	11th
	Alg 1	Geom	Alg 2
Asian	13%	13%	14%
Latino	41%	41%	40%
Black	10%	10%	10%
White	36%	37%	37%

	Geom	Alg 2	Pre-Cal
Asian	20%	24%	22%
Latino	38%	36%	39%
Black	5%	5%	6%
White	37%	35%	33%

	Alg 2	Pre-Cal	AP Calc
Asian	36%	36%	39%
Latino	31%	32%	30%
Black	3%	4%	4%
White	29%	29%	27%

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## The Road to Inequity

Is ~~ethnicity~~ influencing in which math class 11<sup>th</sup> graders are enrolled?  
(Teacher Mindset)

**Math 1 – Math 2 – Math 3**

**Transitional – Math 1 – Math 2**

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## The Road to Inequity

Middle School

Math 6 – Math 7 – Math 8

High School

Alg 1 – Geom – Alg 2 – PreCalc

Alg Ext – Alg Ext – Math 90 – Math 96

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## The Road to Inequity

**54 SPED Freshmen Enrolled in Algebra 1 Extended**

54



27: From 8<sup>th</sup> Grade SPED



27: From 8<sup>th</sup> Grade Gen Ed Math

21: Middle School A

6: Middle School B

**“Is this a Counseling issue?”**

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## The Road to Inequity

Middle School

Math 6 – Math 7 – Math 8

↓

Concepts (SPED)  
6 – 7 – 8




High School



Alg 1 – Geom – Alg 2 – PreCalc

↓

Alg Ext – Alg Ext – Math 90 – Math 96



**“Is this a Counseling issue?”**

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## The Road to Inequity

Your RSP student in Algebra Extended



**Chris Shore** <cshore@tvusd.k12.ca.us>  
to Marc

Good Day Mr Horton,

I am the typical RSP student in your district. You wanted to know the narrative of my math trajectory. Well, I spent all three of my middle school years in Math Concepts classes for which there is no official district curriculum with a Special Ed teacher who was never formally trained in mathematics or mathematics education. When I arrived at high school, it was a crap shoot as to whether I was enrolled in Pre-Algebra Concepts, Algebra Extended or Algebra 1. Of my few friends who were allowed to take the Gen Ed Math classes in middle school, they all started high school in Algebra Extended. All of us will take that State Test our Junior year, rarely having had interaction with a credentialed math teacher and having seen only a third of the curriculum that we are assessed on, while the few adults that are paying attention to us scratch their heads on why our scores on this high profile exam suck so badly.

Sincerely,  
Helplessly Left Out

11:16 AM (11 hours ago)

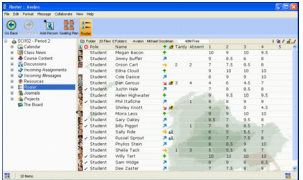





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## The Opportunity Gap

**The Achievement Gap = An Opportunity Gap**

**“A student’s chances of passing and learning all depends on where they are sitting.”**










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## Chapter Two

### The Teaching Gap

53

## Close the True Gap

**21<sup>st</sup> Century Standards  
College and Career Readiness**

Teaching Gap

Majority Groups


Opportunity Gap

Minority Groups



}

True Gap

**Focus Gap**



Phi Delta Kappan  
Apr 2003

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## 1<sup>st</sup> Instruction Is an Equity Issue

### 7 Features of Equitable Classroom Spaces

-- Ayanna Perry,

Mathematics Teacher, Vol 112, No. 3 Nov/Dec 2018

1. Use high cognitive demand tasks.
2. Give clear expectations for task engagement.
3. Provide resources
4. Provide opportunities to share work publicly in written and verbal forms.
5. Provide opportunities to justify and explain thinking in written and verbal forms.
6. Answer questions with questions.
7. Model high-level reasoning during lessons.



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## The Teaching Gap

### The Achievement Gap = A Teaching Gap



#### Mathematical Practices

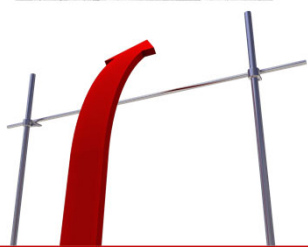
1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.



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## Chapter Three

### The Expectation Gap



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## Be Aware of *YOUR* Bias



Ethan Weker

on his Wait Time for Latino vs Chinese Students



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## Be Aware of *YOUR* Bias

### ScienceNews

MAGAZINE OF THE SOCIETY FOR SCIENCE & THE PUBLIC

#### STEM professors' beliefs on intelligence may widen the racial achievement gap

Racial minorities can suffer lower grades if their teachers see intelligence as fixed

BY BRUCE BOWEN | JUNE 15, 2015 | 10:15 AM



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## Be Aware of *YOUR* Bias

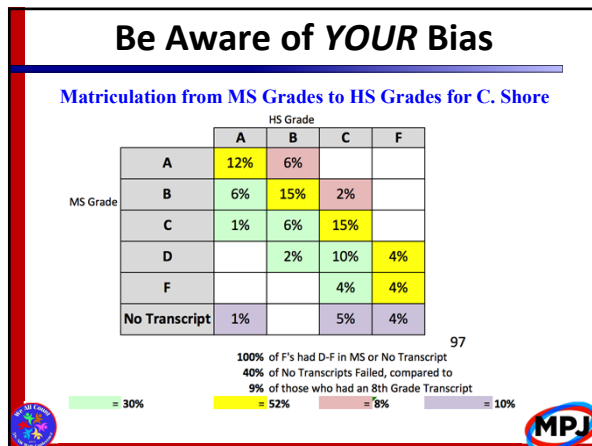


95% of Teachers claim they treat students fairly.

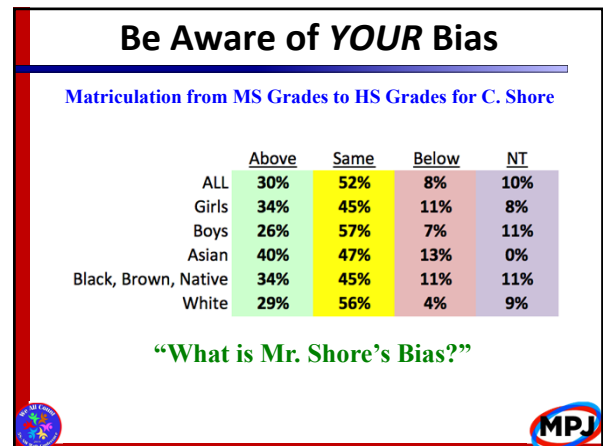
57% of Students think so.



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## The Expectation Gap


The Achievement Gap = An Expectation Gap

- Teachers’ Expectations of Students
- Students’ Expectations of Teachers
- Teacher’s Expectations of Themselves
- Student’s Expectations of Themselves




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## Chapter Four




The Skills Gap




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## Don’t Remediate; Accelerate & Support

Research Finding #1: Outside Support Systems  
help low-income black boys succeed.



Dr. Robert Berry, NCTM President, University of Virginia  
on supporting & mentoring the underprivileged



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## Redefine What ‘Works’


9<sup>th</sup> Grade

Algebra → Geometry


Pre-Algebra → Algebra

Pre-Algebra ? Geometry

10<sup>th</sup> Grade



What will get them to grade level next year!



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### Redefine Equity

Equality

Equity

Justice

“Build Bigger Boxes” – Tim Kanold

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### Redefine Equity

Equality

Equity

Justice

“Build Bigger Boxes” – Tim Kanold

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### The Skills Gap

**The Achievement Gap = A Skills Gap**

**Don't Remediate;**  
**Accelerate & Support**  
**by**  
**Building Bigger Boxes!**

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### Chapter Five

**The Data Gap**

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### What Are You Looking At?

**Monitor your systems... because they create the walls that form the gaps!**

“The data we collect on classroom practices is somewhere between nonexistent and laughably rudimentary. In other words, *we know almost nothing about almost everything that matters.*”

– Michael Petrilli, Education Gadfly, Dec 5, 2018

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### What Are You Looking At?

**Monitor your systems... because they create the walls that form the gaps!**

- SPED
- Accelerated Placement
- The Elementary Divide
- Demographics of Courses
- Counselor Placement
- Grades
- Intervention

**Find the Narrative**

**The Achievement Gap = A Data Gap**

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## Chapter Six



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## Provide An Invitation



Steve Maxey on Girls in Math Competition

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## Provide A Forum

African-American Parents Advisory Council

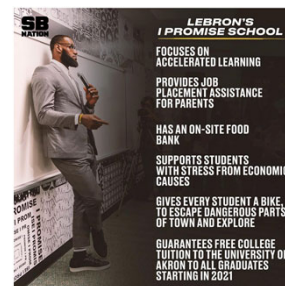


"A forum to advocate for high quality educational experiences that will improve academic and behavioral outcomes and ensure equitable opportunities"



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## Provide... a lot!



LeBron James on Acceleration & Equity...  
...and on Mentors & Support

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## Provide Mentors & Support

Research Finding #2: Mentors helped low-income black boys succeed.



Dr. Robert Berry, NCTM President, University of Virginia  
on mentoring the underprivileged

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## Provide Mentors & Support



Stacey (and Carolyn) Abrams on Mentors  
and on Changing the World

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## The Participation Gap

### Provide:

- An Invitation
- Student Leadership
- A Forum for Parent Involvement
- And above all else... Mentors & Support

**The Achievement Gap = A Participation Gap**



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## Equity is a Story About People



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## Epilogue: Find Your Walls, Close Your Gaps, and Write Your Story

### Opportunity Gap

Students should have equal access to courses and quality teaching.

### Teaching Gap

Deliver 21<sup>st</sup> Century Math Instruction to ALL students.

### Expectation Gap

Be aware of your own biases.

### Skills Gap

Don't remediate; accelerate by building bigger boxes.

### Data Gap

Monitor your systems as well as their results.

### Participation Gap

Invite, Mentor and Support.

Chris Shore  
@MathProjects  
shore@mathprojects.com



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