

# Excellence Gaps in Wisconsin: Causes, a Little Data, and Solutions

Greater Dane County  
Advanced Learner Network  
Madison, WI

Jonathan A. Plucker  
@JonathanPlucker  
21 September 2020



**A podcast about parenting and educating bright and curious kids  
from the Johns Hopkins Center for Talented Youth**

**<http://ctyj.hu/brightnow>**

**Subscribe on iTunes, Soundcloud, Google Play, Stitcher, Blubrry, and Spreaker**



Contact me if you'd like a copy of the slides

Contact information is included  
at the end of the presentation



NATIONAL ASSOCIATION FOR  
**Gifted Children**

Shining a light on gifted children



@NAGCgifted

#GiftedMinds

A little background

# Quick Quiz!

- What percent of 85 year-olds live in nursing homes and similar facilities?
  - 9% in 2018, down from 11% as of 2014 and 24% in 1990

# Poverty Rate

Which racial/ethnic group has the highest poverty rate in Wisconsin?

- Black 34%, Native American 28%, Hispanic 22%, Asian 12%, White 10%

- <https://www.welfareinfo.org/poverty-rate/wisconsin/>

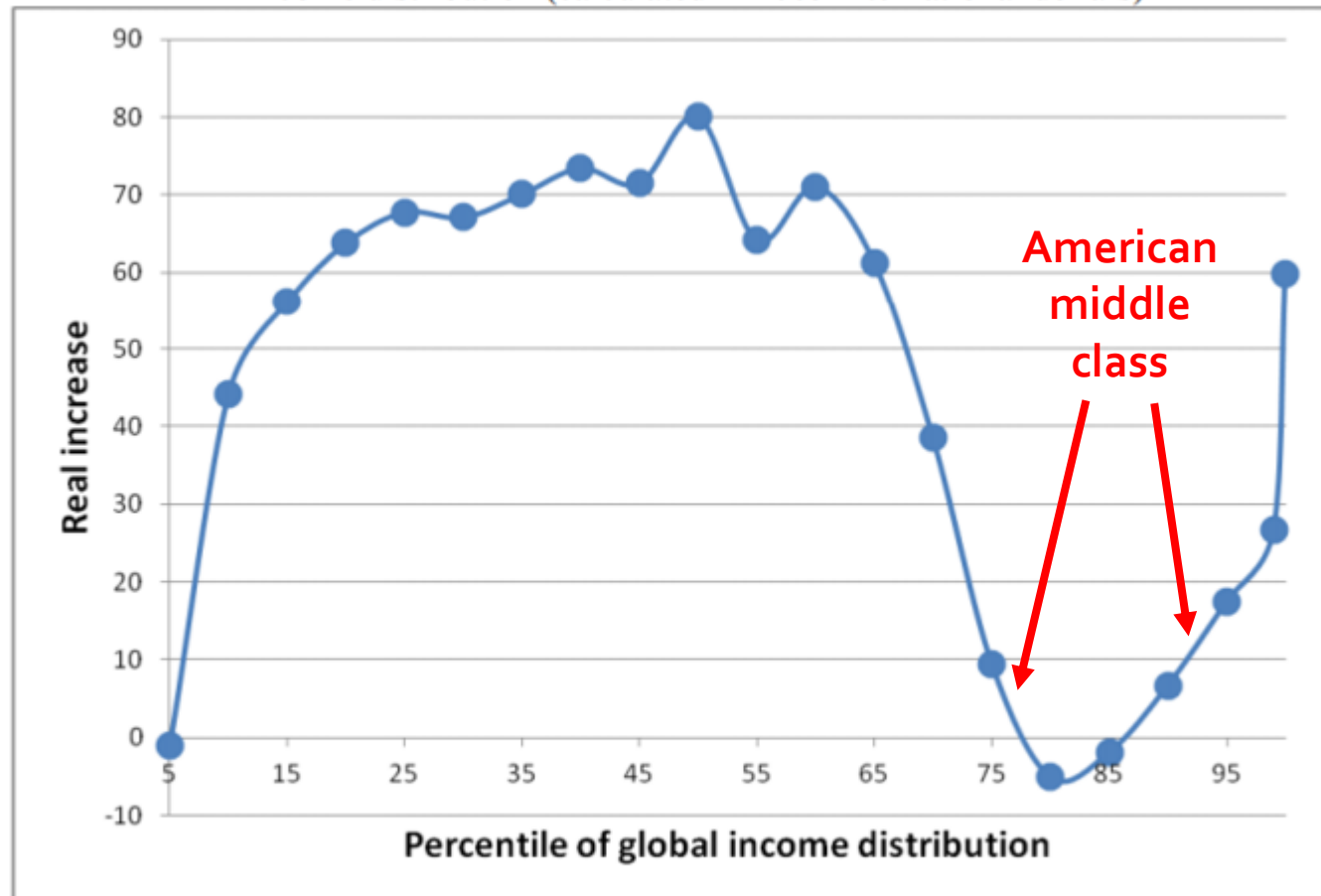
In NYC?

- Asian 27%, Hispanic 24%, Black 22%, White 14%

- Mayor's Office of Operations 2016 report, via abc7ny.com

# Milanovic "Elephant Graph"

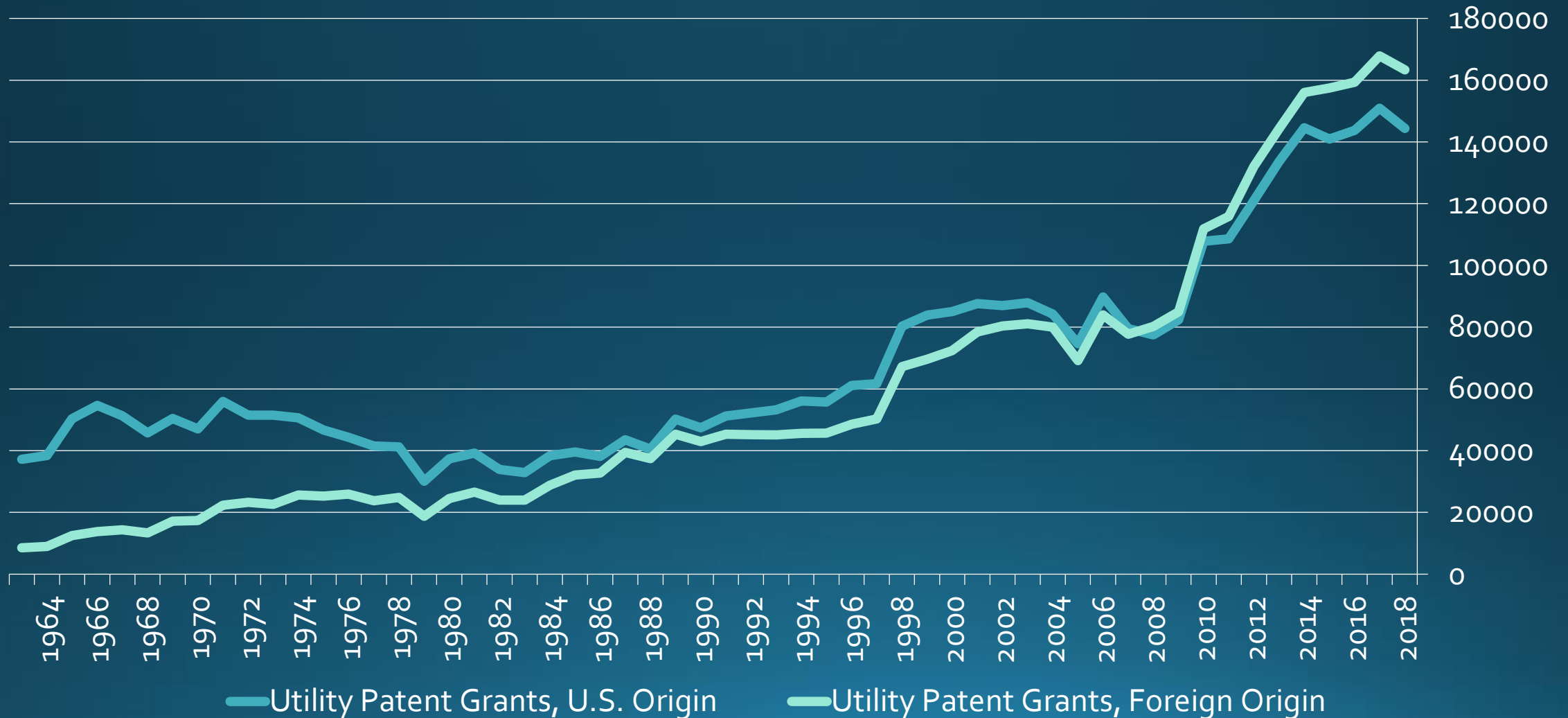
Figure 4. Change in real income between 1988 and 2008 at various percentiles of global income distribution (calculated in 2005 international dollars)



Note: The vertical axis shows the percentage change in real income, measured in constant international dollars. The horizontal axis shows the percentile position in the global income distribution. The percentile positions run from 5 to



# Who Gets U.S. Patents?



So other than family structure, the workforce, communication, the national and global economy, sources of innovation, and the coming robot apocalypse ...

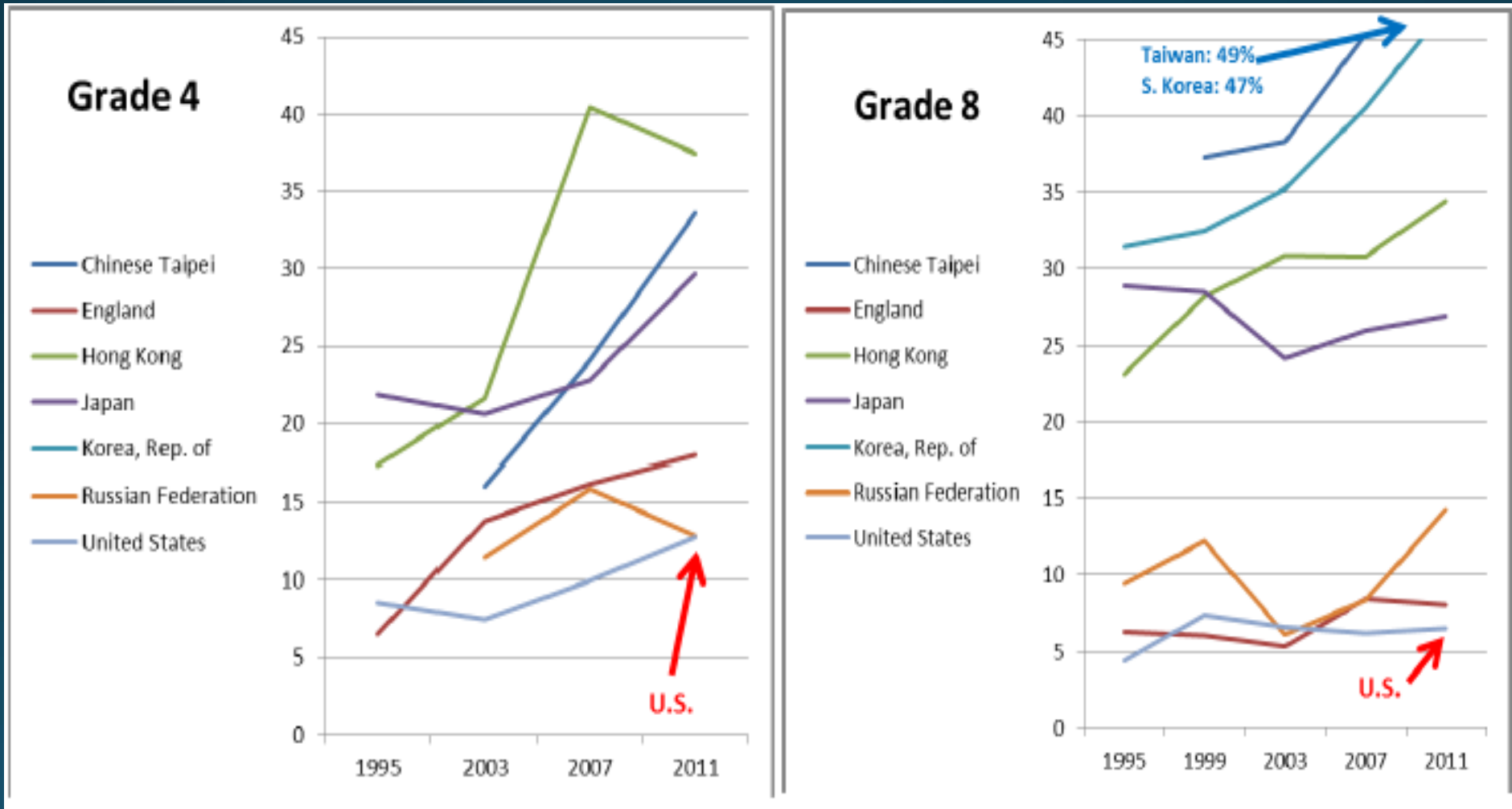
... nothing has changed.

# The 21<sup>st</sup> Century ...

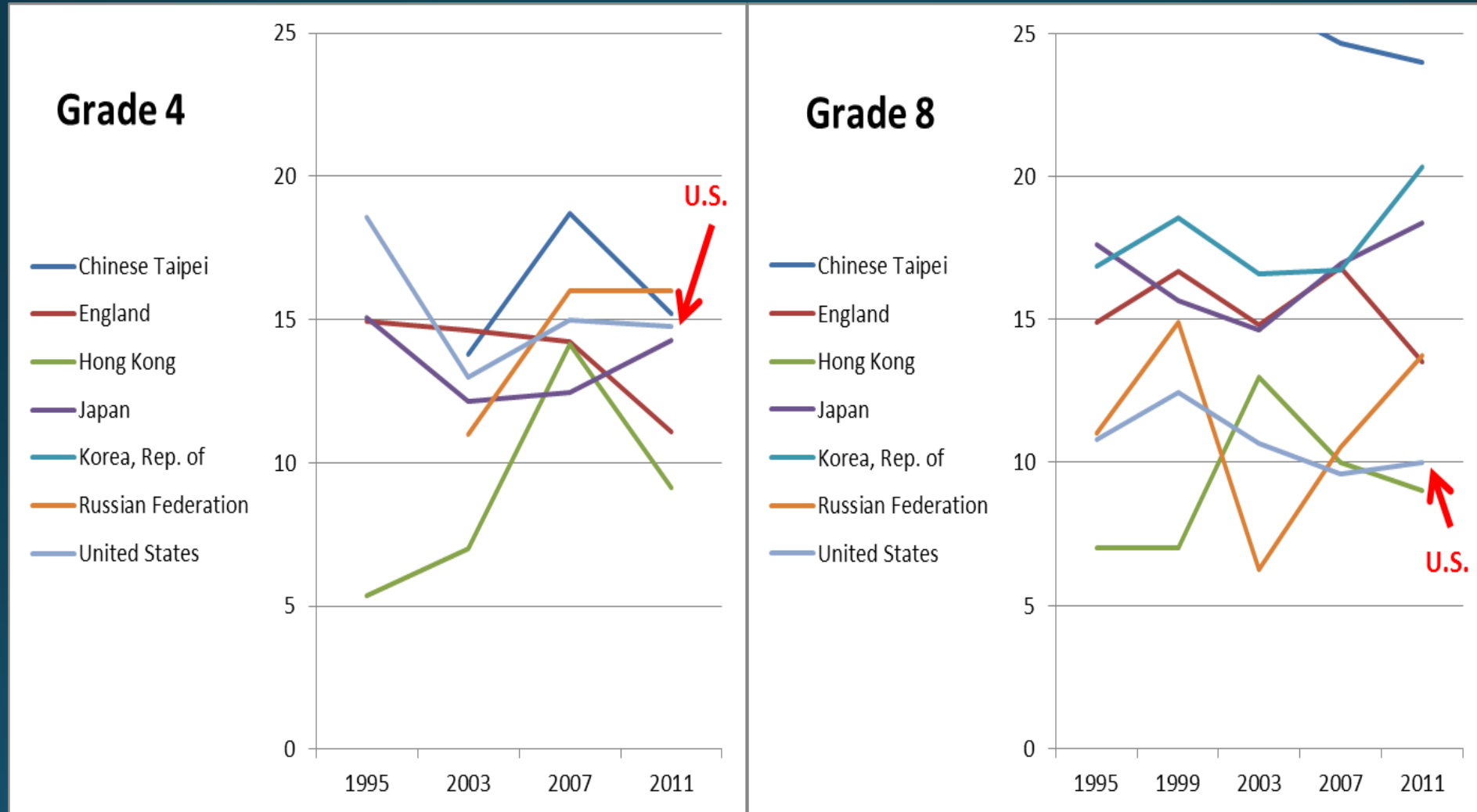
- ... is clearly proving to be a brave new world where skills and talents that previously helped us achieve success need to be rethought.
- Part of that is rethinking where talent comes from.

A little data

# Percent of Advanced Scores (625+) on TIMSS Math Assessments

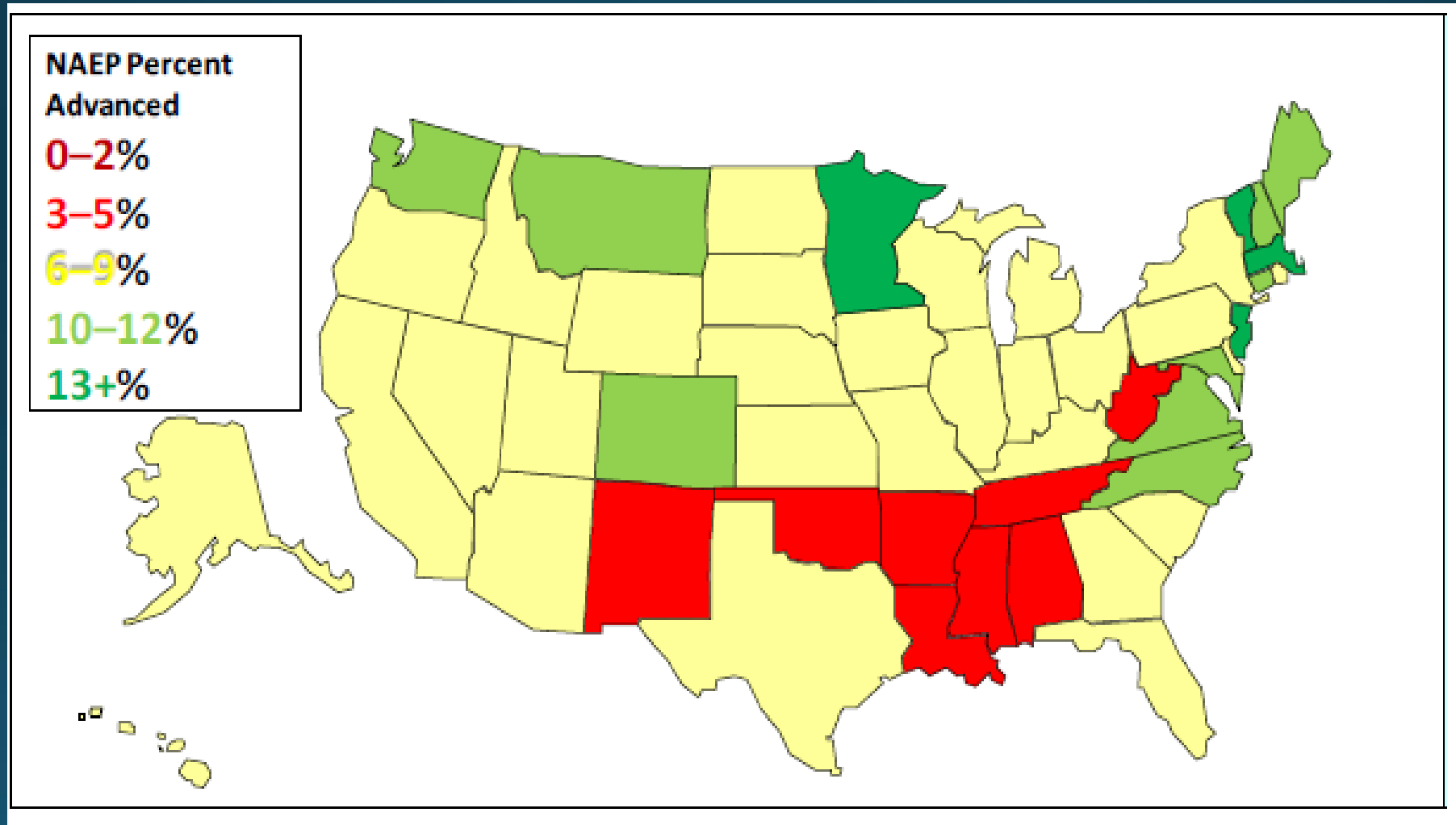


# Percent of Advanced Scores (625+) on TIMSS Science Assessments



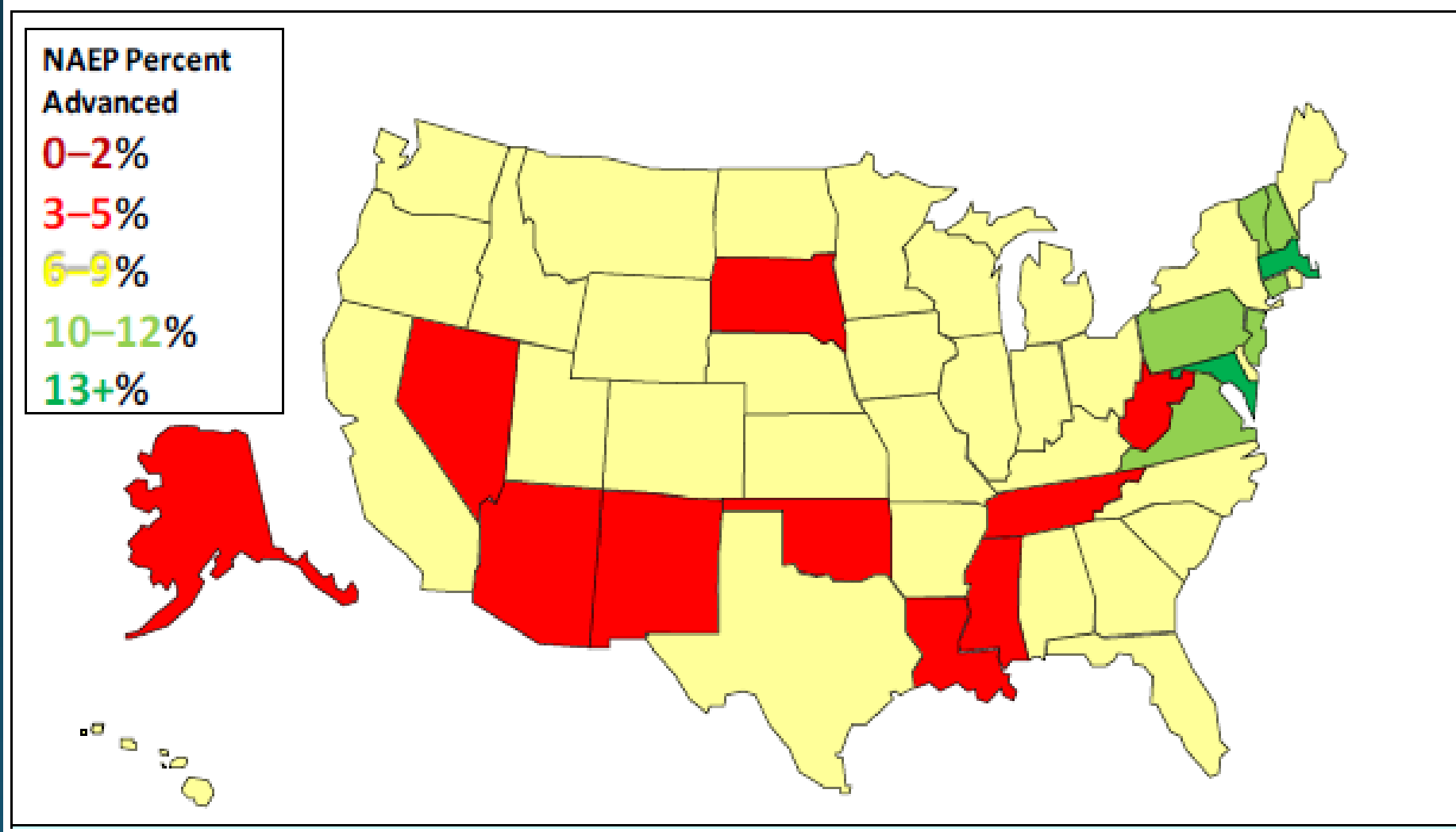


# Percent of Students Scoring Advanced on NAEP Grade 8 Math

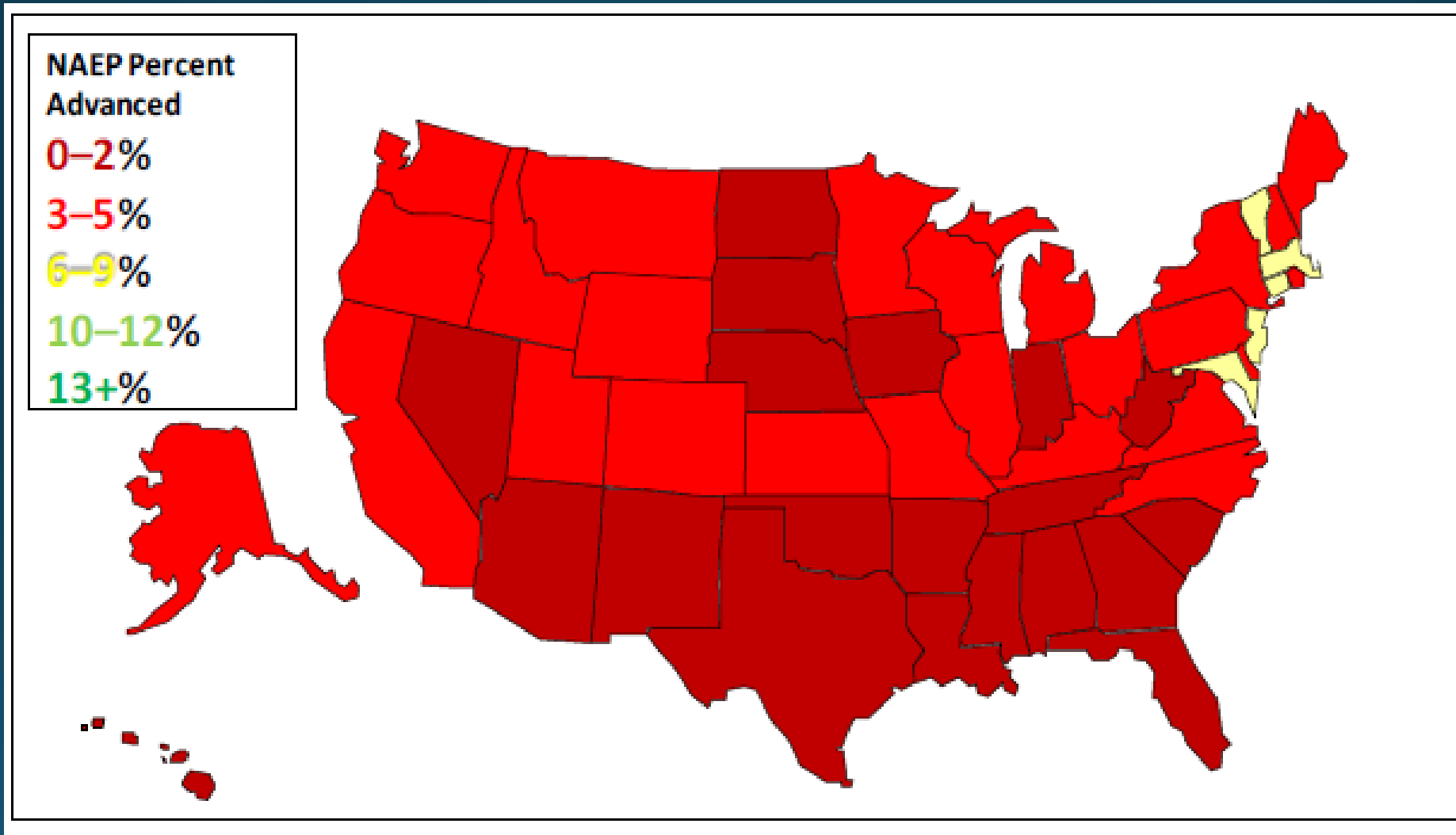




# Percent of Students Scoring Advanced NAEP Grade 4 Reading



# Percent of Students Scoring Advanced NAEP Grade 8 Reading



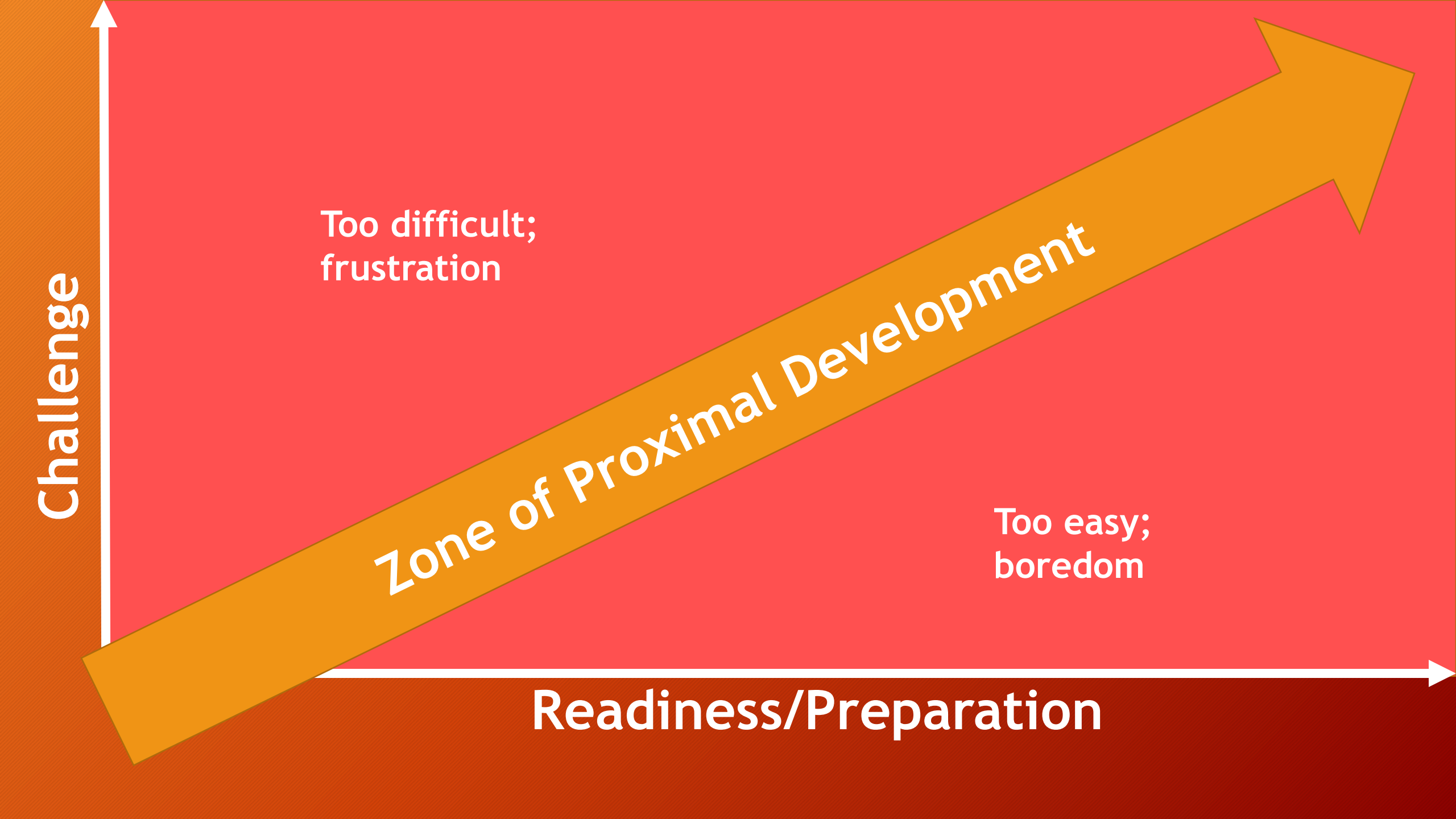
... well, they aren't.

So when people say, "These kids  
will take care of themselves" ...

# How Many Students Are Performing Above Grade-Level?

From research by Matt Makel, Michael Matthews, Scott Peters, Karen Rambo-Hernandez, and Jonathan Plucker

Published as a policy brief by the Johns Hopkins Institute for Education Policy and with slightly different data in *Gifted Child Quarterly*, 61, 229-238.



Challenge

Too difficult;  
frustration

Zone of Proximal Development

Too easy;  
boredom

Readiness/Preparation

TABLE 4

*Mastery Rates and Proficiency Probability Scores for Analytic Sample and Corresponding Descriptive Statistics for Teacher-Reported Content Measures*

Student math proficiency levels	Fall kindergarten			Content measures	Teacher reported days/month on content measures	
	Students who have mastered level by fall kindergarten	Proficiency probability scores			Mean	SD
		Mean	SD			
Proficiency level 1	95%	0.94	0.15	Basic counting and shapes		
Proficiency level 2	62%	0.58	0.34	Patterns and measurement		
Proficiency level 3	25%	0.23	0.31	Place value and currency		
Proficiency level 4	7%	0.04	0.13	Addition and subtraction		

*Note.* Student  $n = 11,517$ ; teacher  $n = 2,176$ .

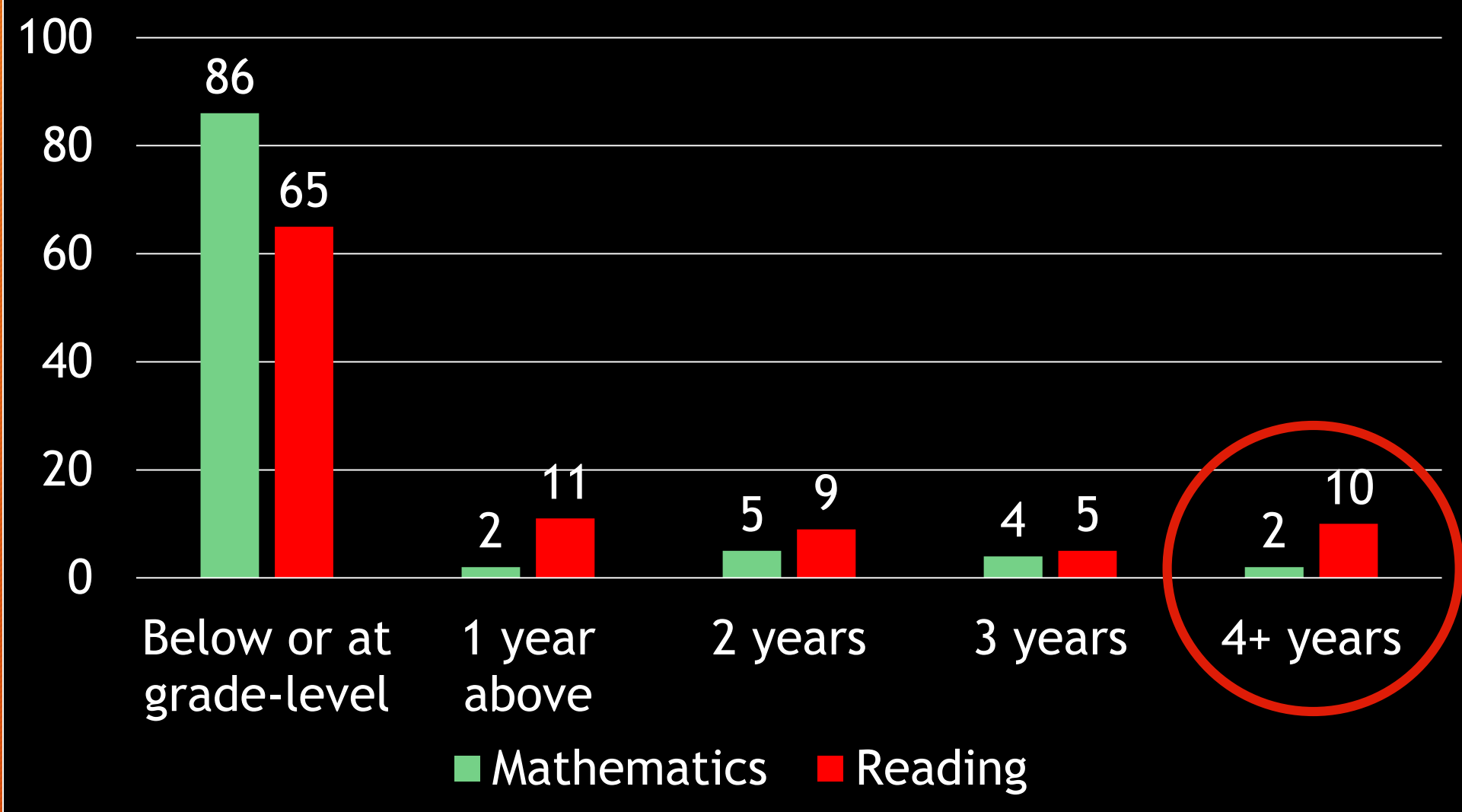
Engel, Claessens, & Finch, 2013. Teaching Students what they already know? The (mis)alignment between mathematics instructional content and student knowledge in kindergarten. *Educational Evaluation and Policy Analysis*, 35, 157-178.



## Percent of Students Scoring Above Grade Level

Grade	ELA			Math		
	WI	CA	TX	WI	CA	TX
3	34%	23%	20%	26%	19%	16%
4	39%	29%	25%	26%	18%	29%
5	44%	34%	30%	31%	22%	34%
6	49%	34%	24%	36%	27%	32%
7	47%	38%	30%	37%	28%	33%

# MAP Test Results





**Table 2.** Range of Grade Level Equivalent (GLE) Comprehension Scores on the ITBS for All Students Across Schools

School	N	Grade 3			N	Grade 4			N	Grade 5		
		Lowest GLE score	Highest GLE score	Range of GLE scores		Lowest GLE score	Highest GLE score	Range of GLE scores		Lowest GLE score	Highest GLE score	Range of GLE scores
Sun Coast Elementary	117	0.6	8.3	7.7	59	3.9	10.0	6.1	35	5.0	9.8	4.8
North Lake Magnet	117	2.1	9.8	7.7	105	2.6	12.6	10.0	114	2.1	13.0	10.9
Frontier Elementary	75	0.9	7.5	6.6	68	1.6	11.1	9.5	74	1.9	13.0	11.1
Eastern River Elementary	70	1.3	8.3	7.0	74	1.7	11.1	9.4	83	1.4	9.8	8.4
Park Ridge Elementary	44	1.1	4.9	3.8	70	1.3	5.8	4.5	44	1.4	6.8	5.4
All	423	0.6	9.8	9.2	376	1.3	12.6	11.3	350	1.4	13.0	11.6

**Reading Comprehension and Fluency Levels Ranges Across Diverse Classrooms : The Need for Differentiated Reading Instruction and Content**

Janine M. Firmender, Sally M. Reis and Sheelah M. Sweeny

*Gifted Child Quarterly* 2013 57: 3 originally published online 1 October 2012

DOI: 10.1177/0016986212460084

“...students performing above grade-level are not rare and likely exist in every classroom in every school”

16% of the variance falls between schools - almost all of the diversity comes from the classroom level!

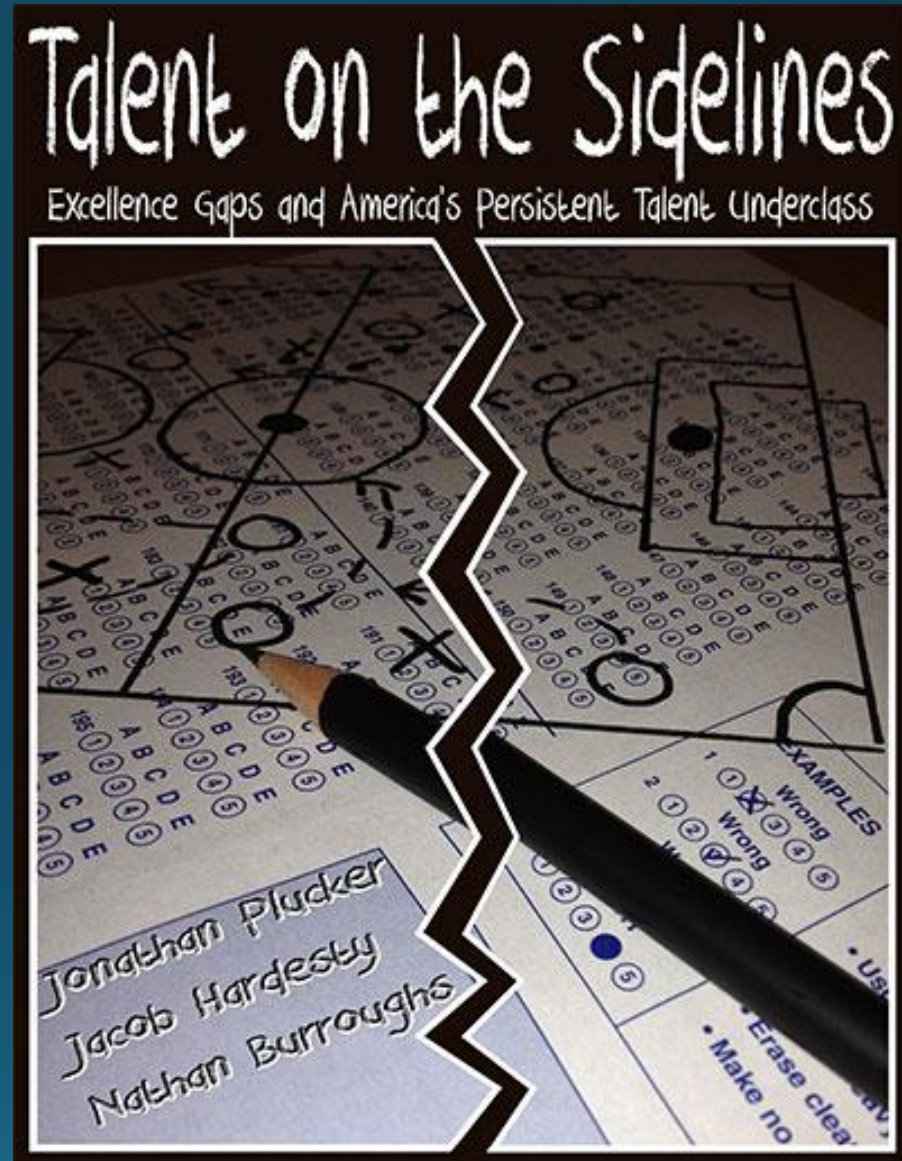
Meaning: Every classroom probably has these students. Every. Single. One.



# Two Takeaways:

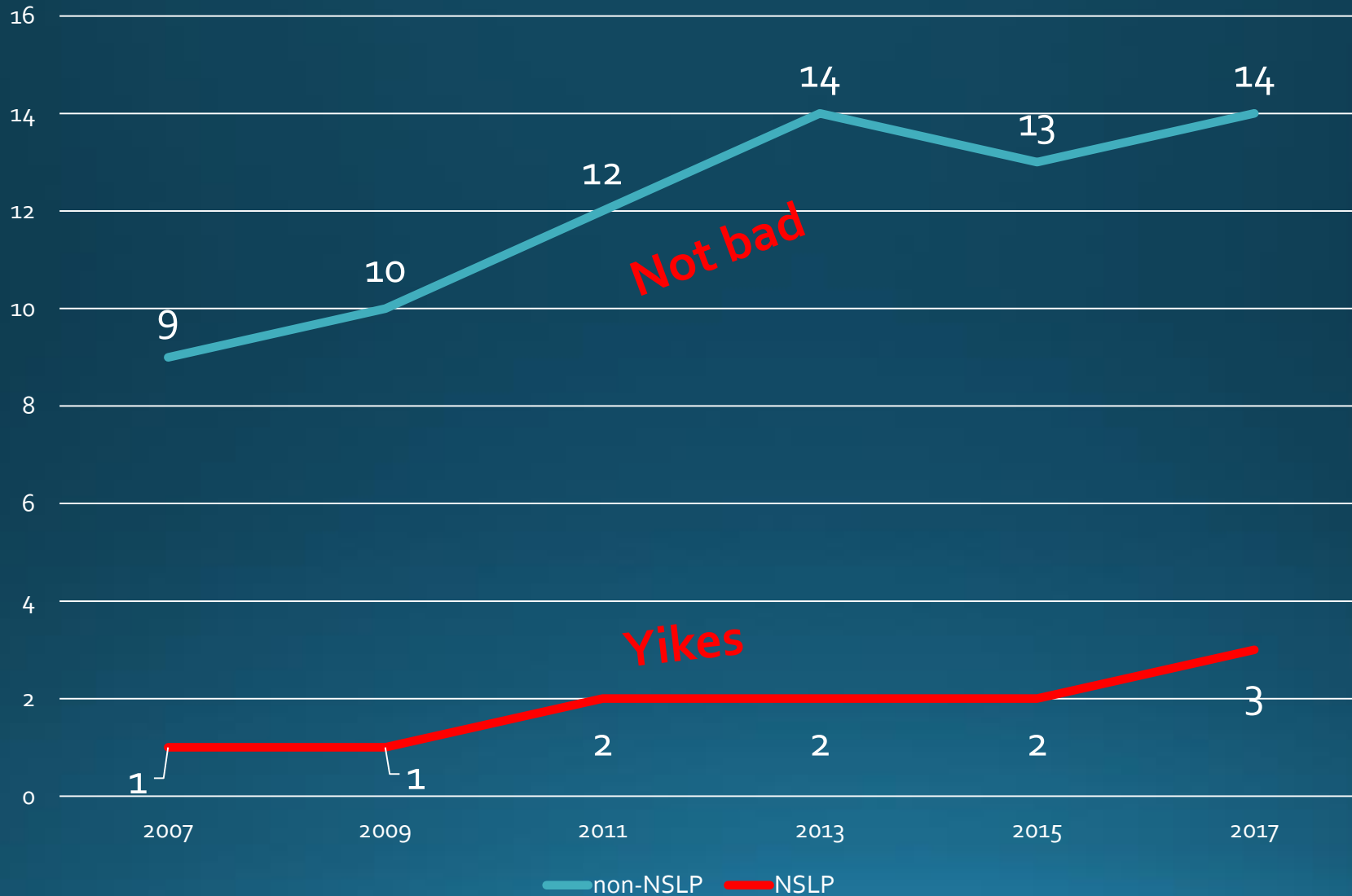
- Classrooms where large percentages of students already are above grade-level, but nearly all of the teacher's focus is on learners working at or below grade-level, are not going to facilitate growth or further development for advanced learners
- There is little support for the current age-based classroom structure as the optimal organizational structure for fostering student development

# *Talent on the Sidelines Results*

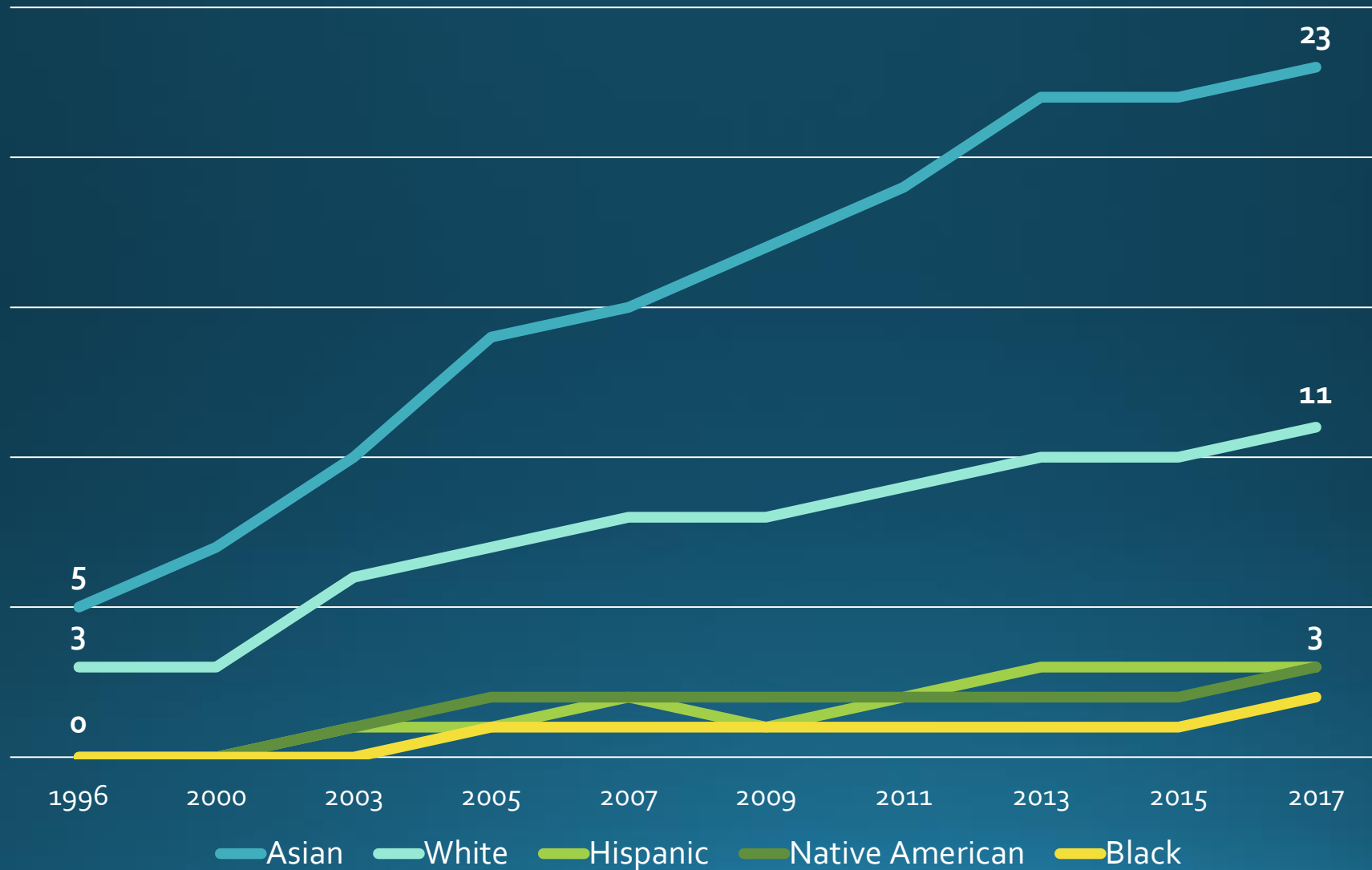


<http://cepa.uconn.edu/mindthegap>

# NAEP % Advanced Math Grade 4



# NAEP % Advanced Math Grade 4



... because math and reading look *better*.

But why not other subjects?

... well, they aren't.

So when people say, "These kids  
will take care of themselves" ...



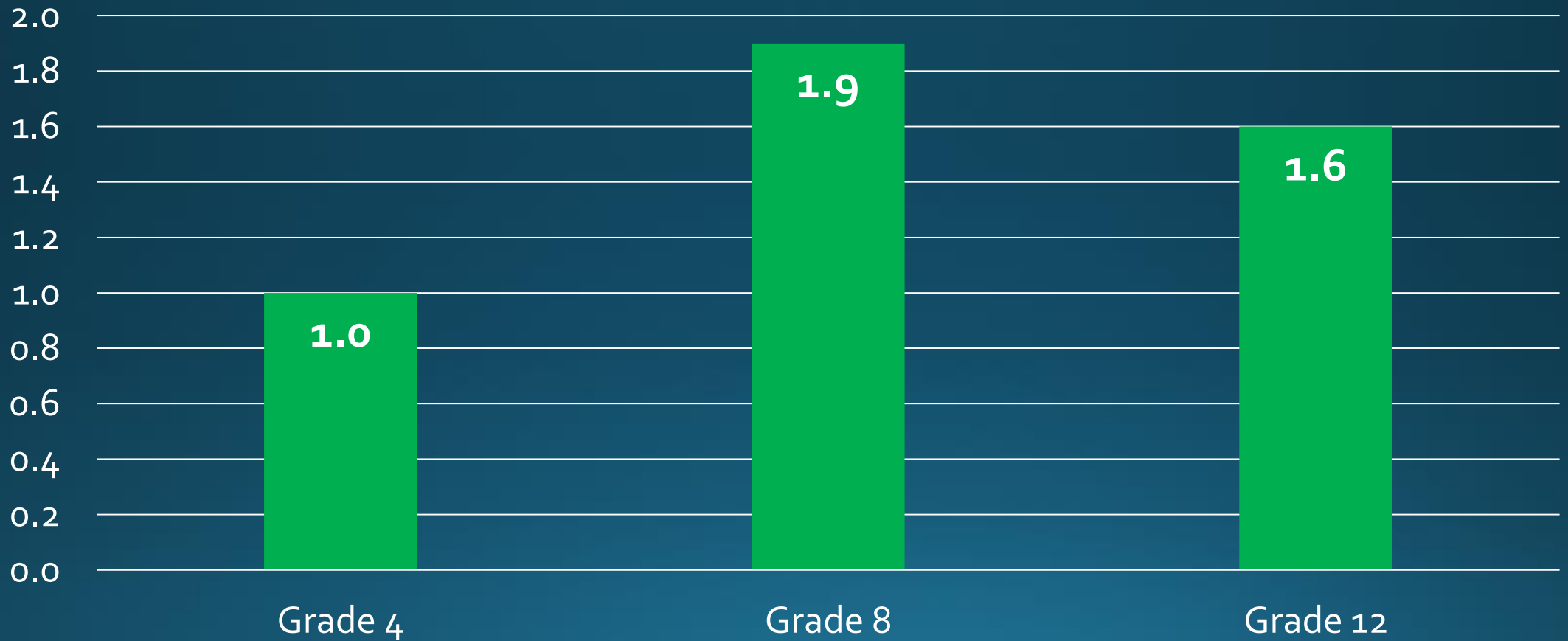
# What's "Advanced" in G4 Science?

- **262** Draw a conclusion about the relationship between volume and temperature based on data
- **262** Anticipate effects of a design decision based on the interdependence of organisms
- **229** Use evidence to critique a conclusion about the mass of a material
- **227** Explain how to produce sounds
- **225** Recognize the cycle of Moon phases
- **224 ADVANCED** -----
- **218** Describe the different stages of the life cycle of an organism
- **217** Recognize fair test for determining how temperature affects a liquid
- **214** Predict the path of the Sun in the sky

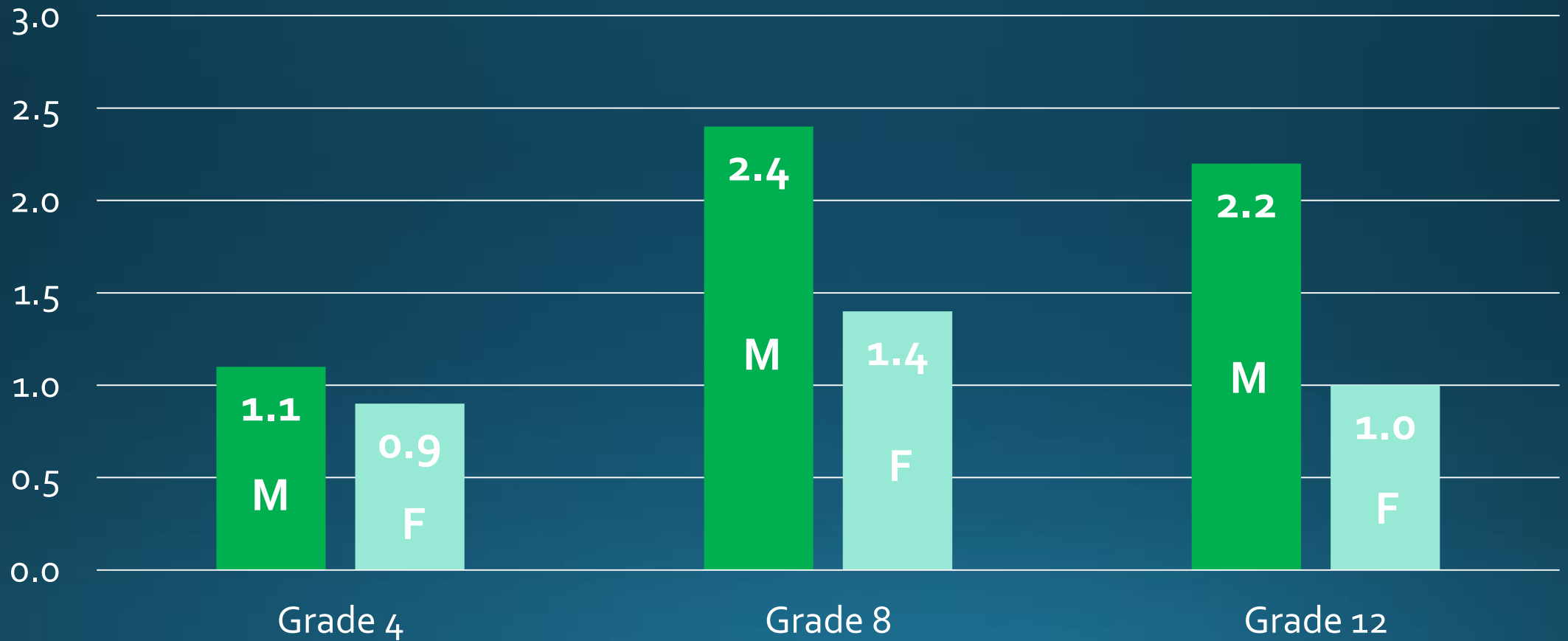
# 2015 NAEP Science Overall Percent Advanced



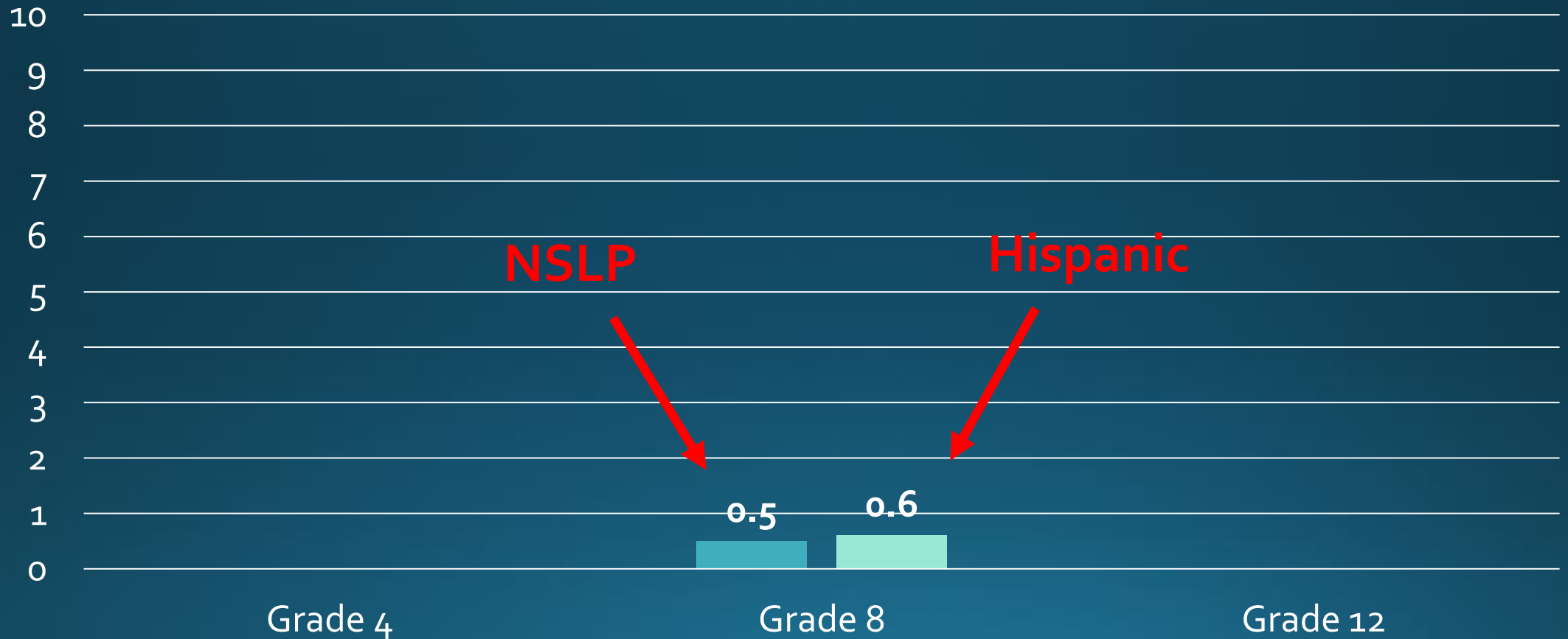
# 2015 NAEP Science Overall Percent Advanced



# 2015 NAEP Science Overall Percent Advanced



# NAEP Science - Percent Scoring Advanced: NSLP, Black, Hispanic, American Indian, ELL



# 2015 NAEP Science Percent Advanced



... well, they aren't.

So when people say, "These kids  
will take care of themselves" ...

# Big Implication

- We can predict with high accuracy that a talented student who is poor and/or Hispanic, Black, or Native American will not perform at advanced levels in K-12 education.
- Hence “persistent talent underclass.”



# What If We ...

... shrunk the low-income excellence gap in math from 13% to 6% in each grade?

EACH YEAR we would have 750,000 more students exhibiting academic excellence.

Some potential solutions

# What about rising tide arguments?

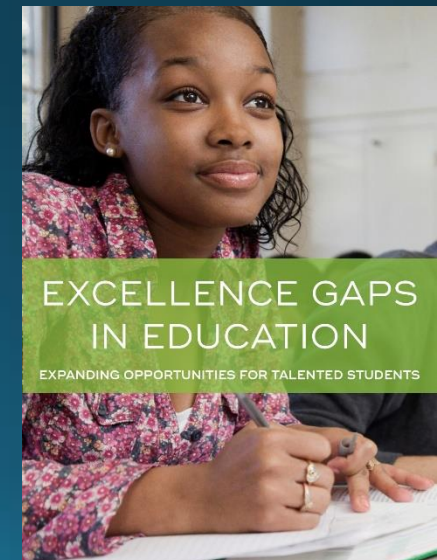
Empirical evidence that instructional strategies that get students to grade-level are distinct from those that get students to above grade-level.



From book  
with Scott Peters:

Published by Harvard  
Education Press

[go.uww.edu/peterss](http://go.uww.edu/peterss)



# Few arguments against universal screening ...

- Primarily due to cost (extra round of testing!) or efficiency (not relevant for vast majority of children tested).
- Cost:
  - Why not use existing data?
- Efficiency:
  - Less of an issue if costs are contained.
  - Trade-offs feel worth it if you identify more low-income and minority students.

# Lots of arguments against local norms ...



**Portability**



**Lowered standards**



- Portability:
  - Concern local-norm-identified students will move to districts with higher standards.
  - Disadvantaged students move a lot, but do *that* many move into upper-class neighborhoods?
- Standards:
  - Concern students will “water down” level of rigor (can be code for something else!)
  - Then frontload to ensure they’re ready. Will come back to this later.
  - Concern students will struggle when put in environment where national norms are used, such as college and the workplace.
  - If it works\*, why would they struggle when put into an environment where national norms are used?
  - \*Research suggests it works.
- Recent study:
  - Using local norms in concert with universal screening can increase low-income and minority representation MASSIVELY.

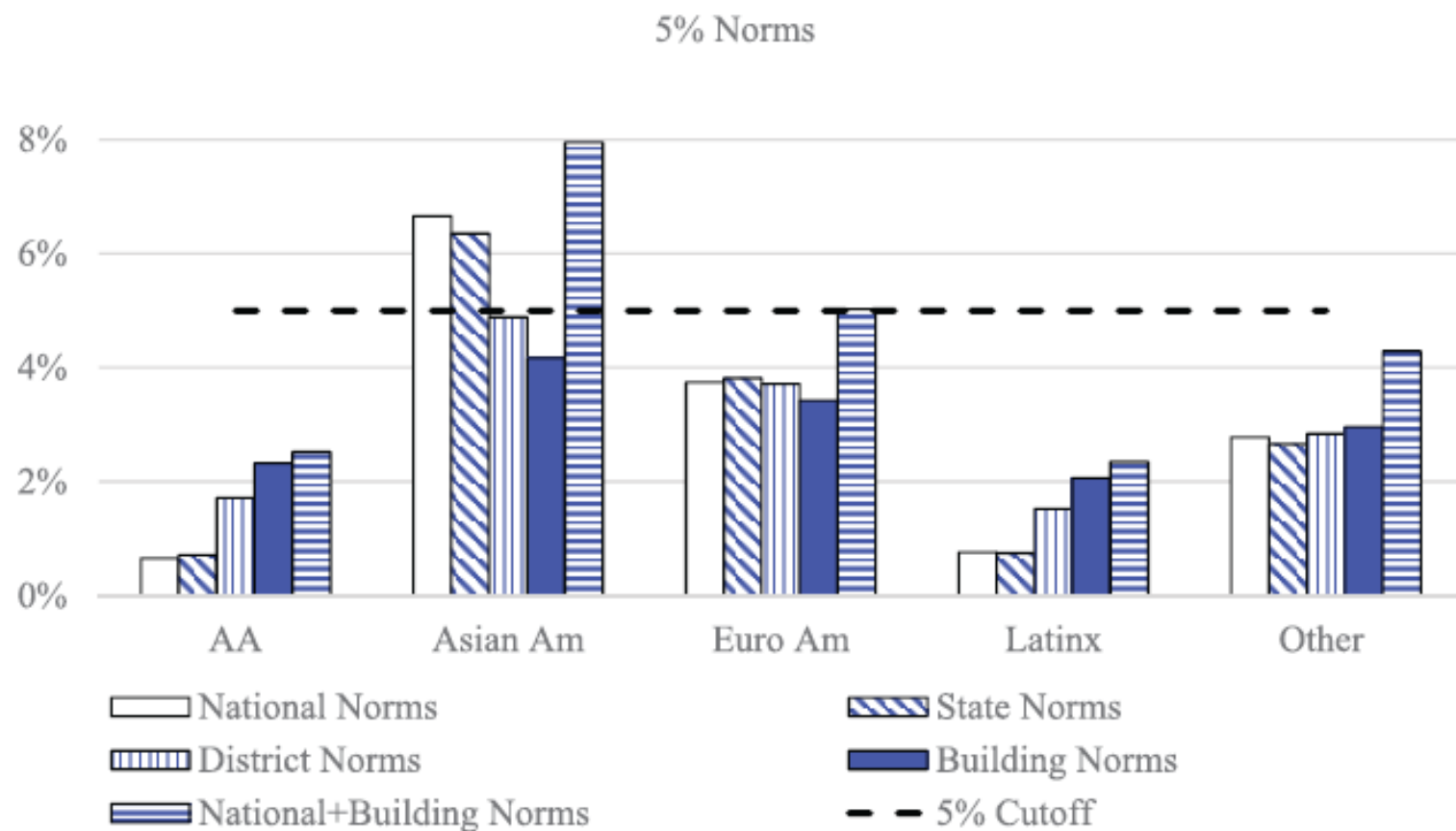


FIGURE 1. *Proportion of each race/ethnicity that was identified as gifted in reading by scope of norm at 5% cutoff. AA = African American.*



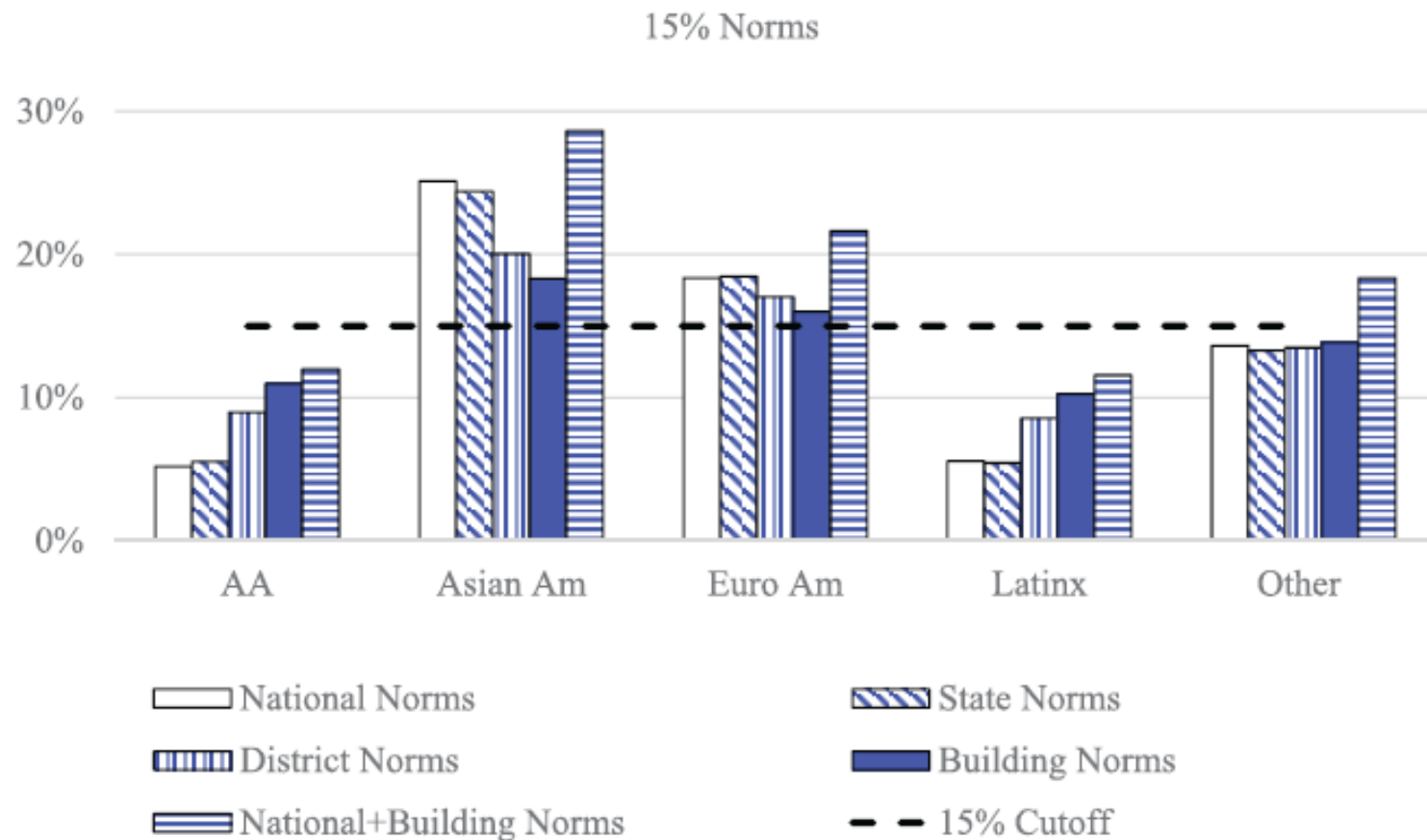


FIGURE 2. *Proportion of each race/ethnicity that was identified as gifted in reading by scope of norm at 15% cutoff. AA = African American.*

GROW THE PIE!!!



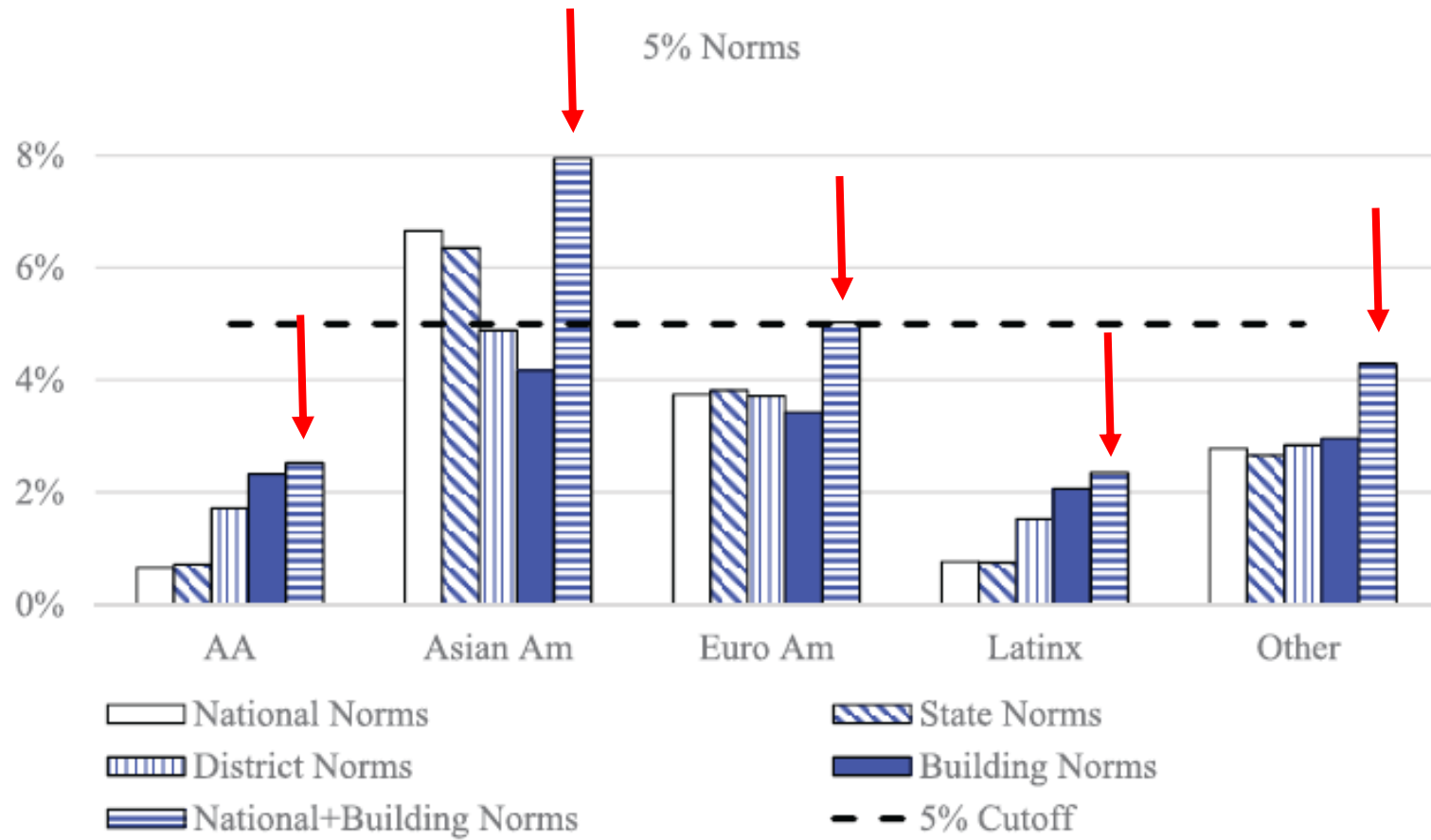


FIGURE 1. *Proportion of each race/ethnicity that was identified as gifted in reading by scope of norm at 5% cutoff. AA = African American.*

# Important caveat

- Districts with even distribution of student demographics across schools will likely not benefit from the use of local norms ...
- ... but it's still probably a good idea to place services locally for the opportunity reasons discussed earlier.

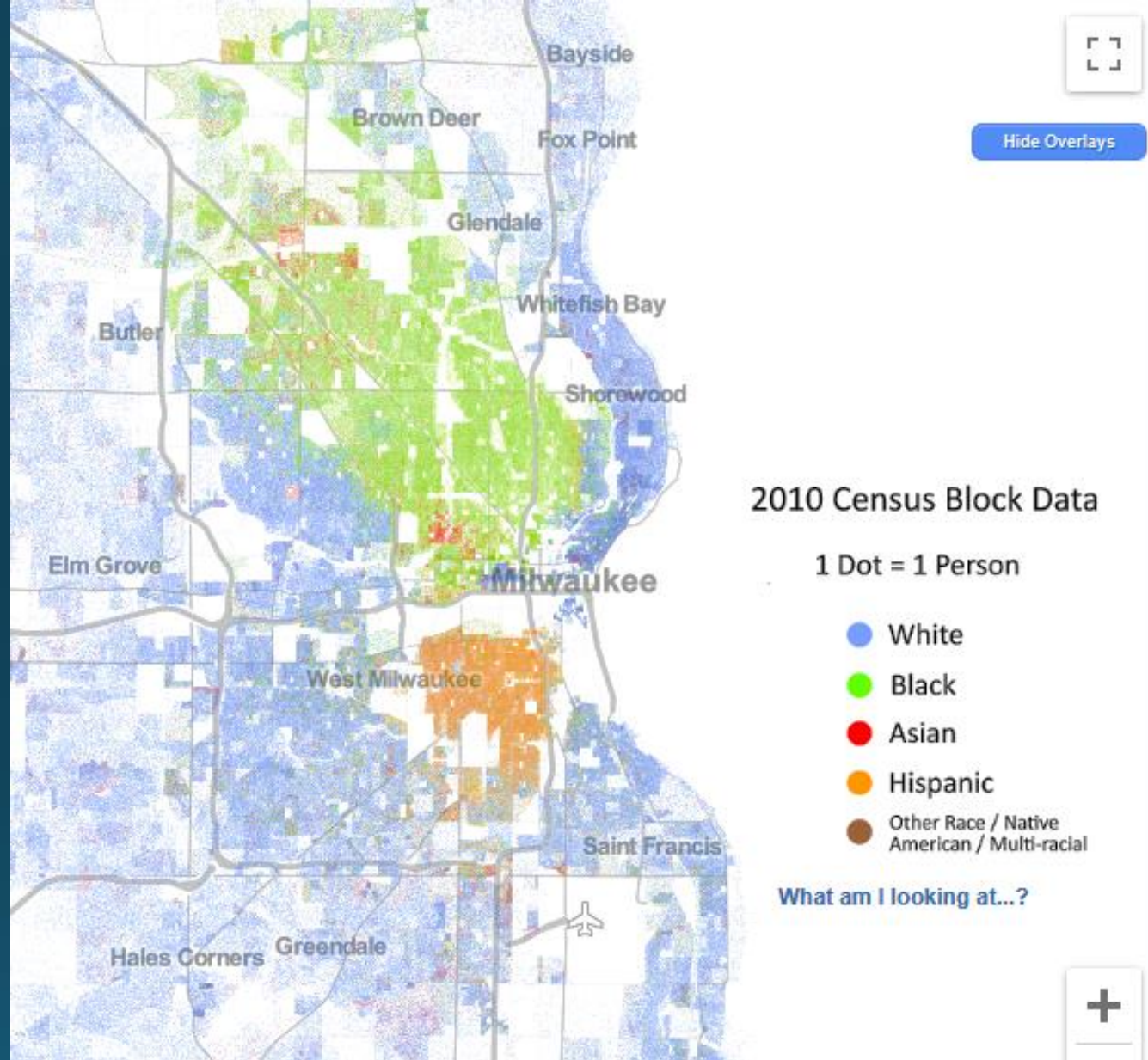
We use local norms all the time without hesitation ...



# National Merit Semi-Finalists Uses Local Norms: 2019 PSAT Score Cut-offs

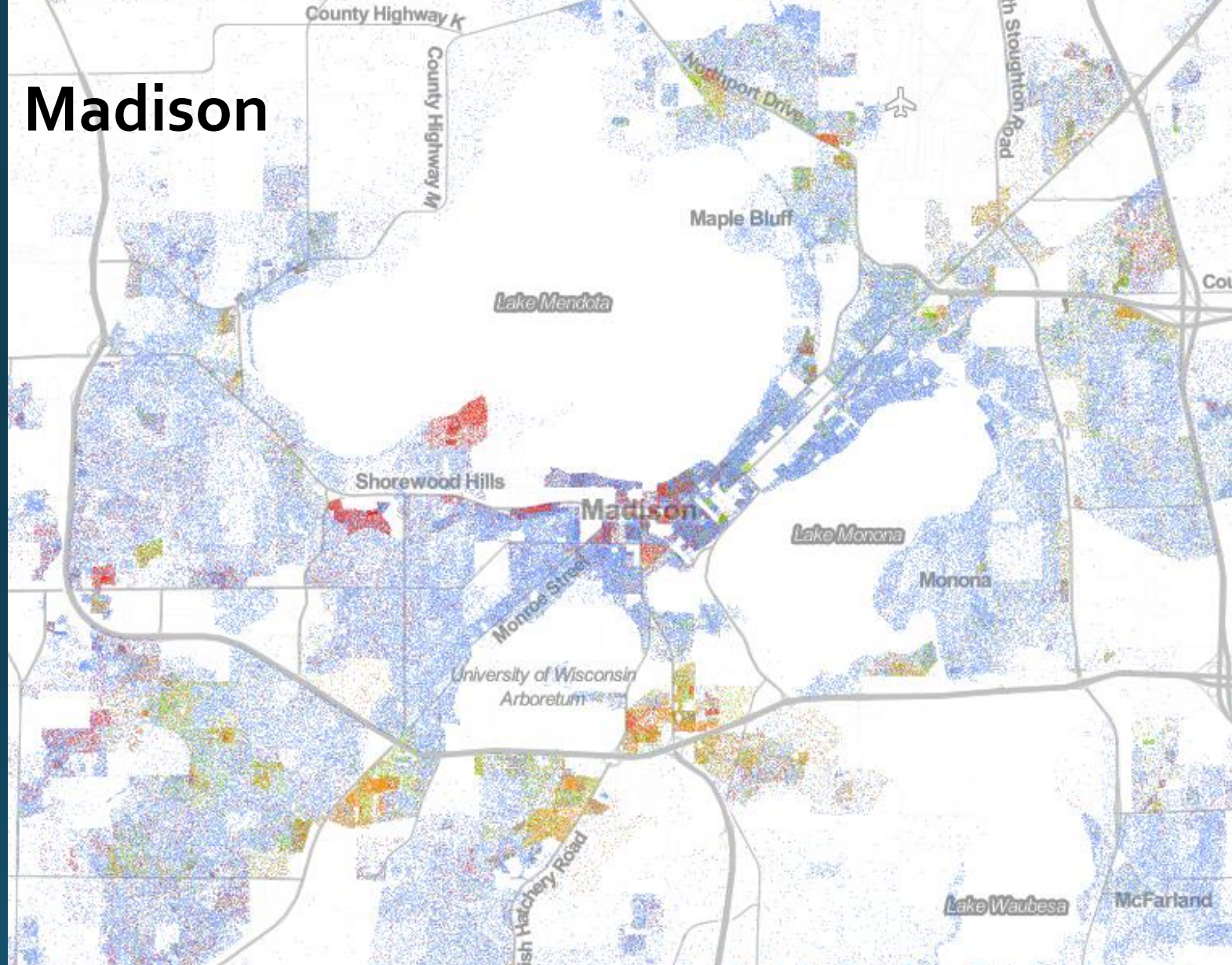
- 223 CA DC MD MA NJ
- 222 CT DE VA WA
- 221 CO IL NY OR TX
- 220 AZ GA HI MN NC PA RI
- 219 FL IN MI NH OH TN
- 218 KS KY NV
- 217 LA ME MO
- 216 AL IA NE SC VT WI
- 215 AK MS NM OK SD UT
- 214 AR ID MT
- 212 ND WV WY





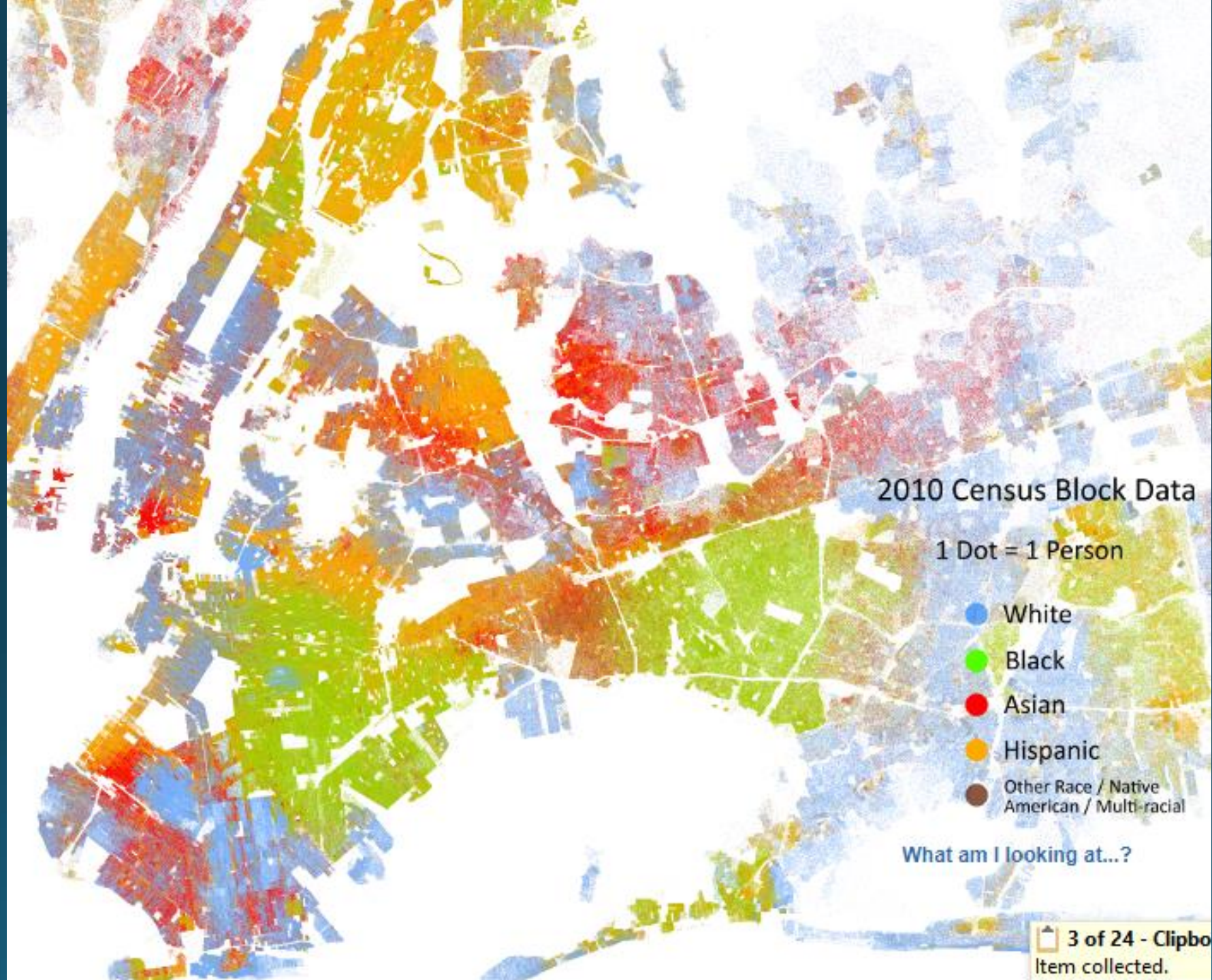
Source: UVA Weldon Cooper Center for Public Service, <https://demographics.virginia.edu/DotMap/index.html>

# Madison



Source: UVA Weldon Cooper Center for Public Service, <https://demographics.virginia.edu/DotMap/index.html>





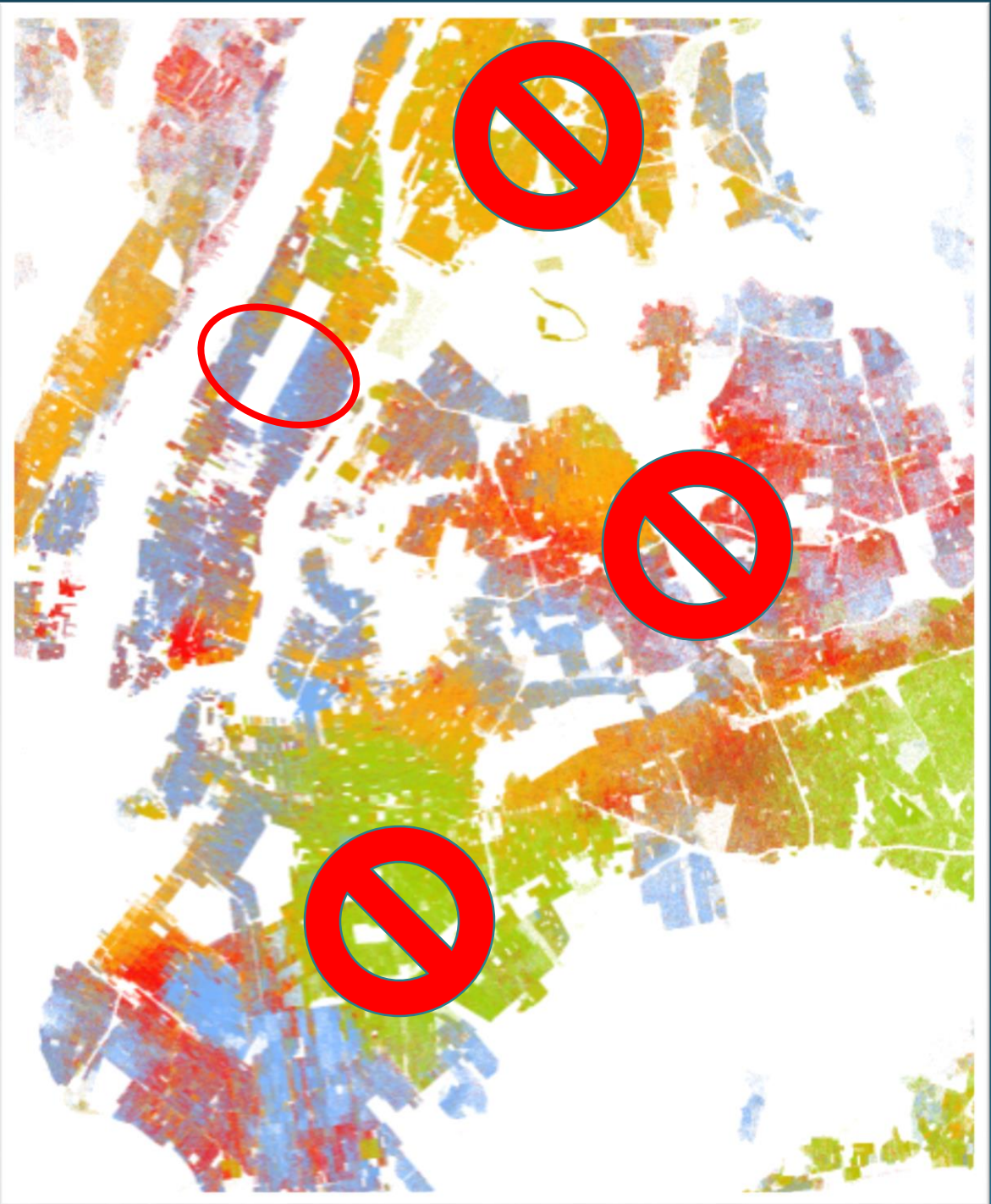
### 2010 Census Block Data

1 Dot = 1 Person

- White
- Black
- Asian
- Hispanic
- Other Race / Native American / Multi-racial

What am I looking at...?







# Upcoming paper by Van Tassel-Baska & Hubbard

- Observed multiple high schools and evaluated presence and depth of differentiation.
- Rarely saw differentiation.
- When they saw it, it was generally done well.
- Quality differentiation was most common in AP courses.
  - Me: Is differentiation outside of ability grouping impossible?
  - JVTB: I don't want to speak beyond our data ... but we may often be asking teachers to do the impossible.

# Ability Grouping

- “First, all trends are positive. As class sizes decrease, information gain increases over baseline, sometimes substantially (up to 80% in some conditions). Second, gains due to ability grouping are most apparent for less extreme target concepts – that is, **the more students differ in their initial knowledge/abilities with respect to these concepts, the more grouping matters**. Third, class size plays a relatively small role: beyond two or three teachers, additional gains are marginal. Thus, within our teaching games, our simulations show that – for teachers with perfect knowledge – **grouping students into even just a few “tracks” based on their prior knowledge will produce substantial benefits, especially for concepts where students’ starting points are variable.**”
- Lawrence Liu & Michael C. Frank (2018), preprint, *Modeling classroom teaching as optimal communication*.

- “I also teach 7th and 8th grade resource math to a population who are 90% ELL and 60% of my students have diagnosed behavior disorders. My students' ability levels within the same class range from pre-kindergarten to 9th grade. A few students are even new to the country and do not speak or understand much English and there is not much of a program to help them (including one of my students). As I was looking at the ... scores of my students, very few of them seem to be making progress from year to year.”



What's Your District's Talent  
Development Plan?



JACK KENT COOKE  
FOUNDATION

## EQUAL TALENTS, UNEQUAL OPPORTUNITIES:

*A Report Card on State Support for  
Academically Talented Low-Income Students*



Dr. Jonathan Parker, University of Connecticut  
Dr. Jennifer Glasco, Jack Kent Cooke Foundation  
Grace Healey, David Arnold, and Chen Wang, University of Connecticut

March 2015

- States and districts have a range of important excellence policies ... but they're **NOT** connected.

## KEY QUESTIONS

- How does a talented young child move through your schools from K-12?
- How would you describe the process/services to a parent of a talented child?

## KEY QUESTIONS

- Do you include ALL of your excellence programs in your TD plan?
  - Gifted, honors, AP, acceleration, grouping, academic counseling, dual credit, aid for economically vulnerable families, etc.
- Does your TD plan address transitions among grade levels? (Biggest parent concern)

## ACTIVITY

- Begin to sketch out a TD plan for your district.
- Consider:
  - Service delivery
  - Points of entry (identification)
  - Recognition/honors

# Talent Development Plan

Universal screening

Discovery School admissions

Universal screening

End of Year Progress

Gifted Program ID

Gifted Program ID

Gifted Program ID

Gifted Program ID

Gifted Program ID  
Universal screening

Gifted Program ID

Gifted Program ID

Gifted Program ID

Gifted Program ID

K

1

2

3

4

5

6

7

8

9

10

11

12

Early entrance

Primary Talent Pool

Gifted education program

Accelerated options

Honors courses

AP

NHS

Frontloading Program

Individual college coaching

Early graduation



# A More Advanced Example ...

Grade	Pre K	K	1	2	3	4	5	6	7	8	9	10	11	12	
Identification Tools	FIS selects students (Primary Talent Pool) based on characteristics and behaviors of high potential learners and who have been further diagnosed using a series of informal and formal measures to determine the disability of differentiated services during the primary program.				Same as K-2. Additionally, upon exit, all take Cognitive Ability Test.	Formal Identification made based on 3 pieces of evidence including "jot down" screeners, Sociograms, available test data, work samples, Scales for Identifying Gifted Student (completed by parents and teachers), normed referenced tests, etc. CogAT is given again at the end of 6th grade.									
	Weekly pull out with GT resource teacher, collaboration/consultation and in-class differentiation.					Weekly pull out with GT resource teacher, collaboration/consultation and in-class differentiation and similar options as 5-8	Extension offerings to match interest, in-class differentiation, consultation/collaborative teaching, extracurricular offerings 7/8 accelerated ELA					Summit move at your own pace allows acceleration, honors options, dual enrollment, Early College. GT Specialist consults with teachers, provides direct, one-on-one services to students via Google Classroom			
Existing Programs, Strategies, and Opportunities for Recognition	<b>Teaching Strategies Gold</b> Teachers use Teaching Strategies Gold for progress monitoring of student skills. Due to this being individualized, it gives the teachers the opportunity to identify skill strengths in their students.								<b>KYA</b> The Kentucky Youth Assembly (KYA) is a 3-day experiential learning program in which students serve as part of a model state government. KYA offers students the opportunity to learn about a wide variety of issues, develop critical thinking skills, and articulate their beliefs while engaging constructively with their peers from around the Commonwealth.						
	<b>Creative Curriculum</b> For those students who are well above their peers, they use different parts of Creative Curriculum to make sure they are meeting individual needs. They do this for all students, not just ones above their expected range.					<b>Genius Hour Passion Projects</b> Genius hour is a movement that allows students to explore their own passions and encourages creativity in the classroom. It provides students a choice in what they learn during a set period of time during school.			<b>KUNA</b> The Kentucky United Nations Assembly (KUNA) is a 3-day experiential learning conference in which students participate directly in simulated international diplomacy. KUNA offers students the opportunity to experience the richness of cultures from around the world, develop empathy, and hone their critical thinking skills while engaging with a wide variety of perspectives and global issues. Partnering with the YMCA.						
						<b>The Frankfort Tribune</b> - A student written weekly newspaper					<b>Summit Learning</b> Summit Learning uses personalized teaching and learning to empower students to harness their inner drive for success. ( <a href="https://www.summitlearning.org/">https://www.summitlearning.org/</a> )				
						<b>STLP (Student Technology Leadership Program)</b>				<b>TOMODACHI Shimamoto-Frankfort Educational Exchange Program</b> It is to get young American and Japanese leaders engaged in strengthening relationships between the two countries and give those leaders global skills and mindsets that will allow them to contribute and thrive in the world.				<b>Professional Mentorship Program</b> All seniors at Frankfort High School will participate in two 14-week professional learning placements within local businesses and organizations.	
						<b>Leadership Development</b> Students will investigate key characteristics of powerful leaders, learn problem-solving skills, and plan a school/community service project.			<b>ATLAS</b> Advanced Topics in Language Arts Studies Based on past KPREP, Exact Path, and classroom performance, students were nominated to take an advanced English Language Arts class. This is a combined class of 7th and 8th grade students who are all reading and writing above grade level and who would benefit from a challenging course of study. Some students in the class are identified as gifted, and some are not, but all receive instruction at a minimum 9th/10 grade level.		<b>Early College</b> 1) Established Early College access for all students starting with Juniors and Seniors – 80+ students enrolled in at least one dual credit class during the 2018 fall semester at a college/university; 2) Immediate access to Dual Credit classes held at Frankfort High School, taught by KSU professors; 3) Established P-16 partnership MOA with Kentucky State University that provides Frankfort students with immediate access to college/university "life" supports; 4) Collaborated (w/ KSU) in the design of teaching learning and leading pathway – Educator Prep coursework – targeting under-represented student population to become educators of the future.				

## KEY QUESTIONS:

- How does a talented young child move through your schools from K-12?
- How would you describe the process/services to a parent of a talented child?
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  - Gifted, honors, AP, acceleration, grouping, academic counseling, dual credit, aid for economically vulnerable families, etc.
- Does your TD plan address transitions among grade levels?  
(Biggest parent concern)

# Learn from the Mistakes of Chinese Marathon Runners

## THE WALL STREET JOURNAL.

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<http://blogs.wsj.com/chinarealtime/2016/03/25/thousands-of-injuries-mishaps-at-chinese-marathon-prompt-alarm/>

CHINA REAL TIME REPORT

## Thousands of Injuries, Mishaps at Chinese Marathon Prompt Alarm

Mar 25, 2016 2:31 pm HKT

全 收起 | 查看大图 | 向左旋转 | 向右旋转



**Frontloading Matters!**



## If we focus on ID vs. frontloading ...

- We will never truly close excellence gaps.
- Feel-good equity only makes adults feel good!
- Sameness vs. Equity

# To Recap:

- Create a talent development plan for your district (breakout session)
- Universally screen, preferably using local norms
- Align ID system with your programming
- School-based/site-based programming to extent possible
- Ability group (flexibly) whenever possible
- Ensure all staff have basic understanding of giftedness and talent
- Frontload, frontload, frontload



**2020  
NAGC  
67<sup>th</sup> Annual  
Convention  
*Reimagined!***

**November 12-17, 2020**

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*Plus, all attendees have access to content for 6 months!*

**Register at [bit.ly/NAGC20Reimagined](https://bit.ly/NAGC20Reimagined)**

**The NAGC Reimagined! Virtual Experience**





# A Convention Like No Other!

## Accessible Anytime, Anywhere...Plus Live & Interactive Experiences

The screenshot displays the website for the National Association for Gifted Children's 67th Annual Convention, titled "Reimagined". The page features a navigation menu on the left with options like "Getting Started", "Browse Schedule", "Pre-Convention Workshops", "Speakers", "Exhibitors", "Sponsors", "Sponsored Events/Education", "SCAN&WIN", "Conference App", "My Schedule", and "Login required". The main content area includes a "Register" button, a "Sneak Previews" section, three "Coming Soon" tiles for "Poster Gallery", "On-Demand", and "Table Talks", a "Theater" section, "Exhibitor Marketplace", "Sponsors", and "Community Connections". A social media post from Jill Adelson is also visible at the bottom.

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**Groups (5-20 registrants)**

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**\$345 per attendee**

**Earn Continuing Education  
Units (CEUs)**

NAGC is pleased to partner with the University of Central Florida to offer CEUs to NAGC20 virtual convention attendees.

**\$60 per credit hour, up to 3 CEUs**

In addition to their convention registration fees, participants may elect to purchase 1-3 CEUs toward their licensure requirements. Because each state and/or district has its own policies and continuing education requirements, each registrant is responsible for checking with their local authorities to ensure NAGC20 CEUs will be accepted.

For more information on the NAGC20 Continuing Education Unit (CEU) Program, visit [\(insert url here\)](#)

**Register at [bit.ly/NAGC20Reimagined](https://bit.ly/NAGC20Reimagined)**

# THANK YOU!

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