Education Information Session
Montana Legislature

January 4, 2023

Michelle Exstrom, NCSL Director, Education Program
Jason Dougal, NCEE President & COO

Why Do We Have the System We Have?

The current education system has its roots in the turn of the century – The 20th Century!

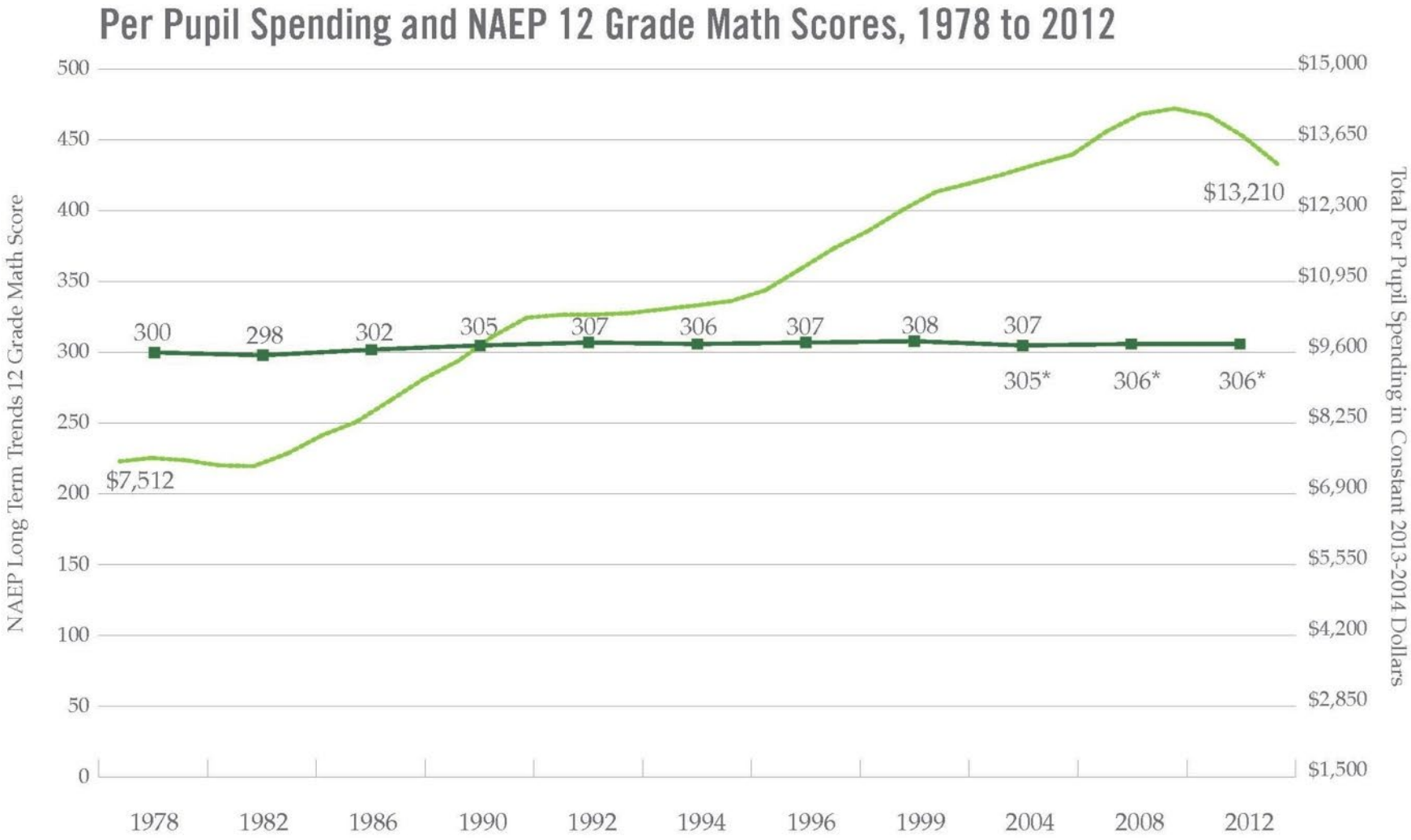
- Prepared workers for a burgeoning assembly line factory model
- Assimilated immigrants into American culture
- Provided widespread basic literacy and numeracy
- Critical thinking necessary for only a select percentage
- Leveraged lessons from across Europe

How Has the Current System Performed?

Actually, quite well…for a long period of time

- For almost a century, the U.S. led the world in education attainment and quality
- Drove the biggest economy in the history of the world to ever new heights
- Fostered an explosion of the middle-class
- Backbone of a stable democracy
- Production engine that helped win 2 world wars

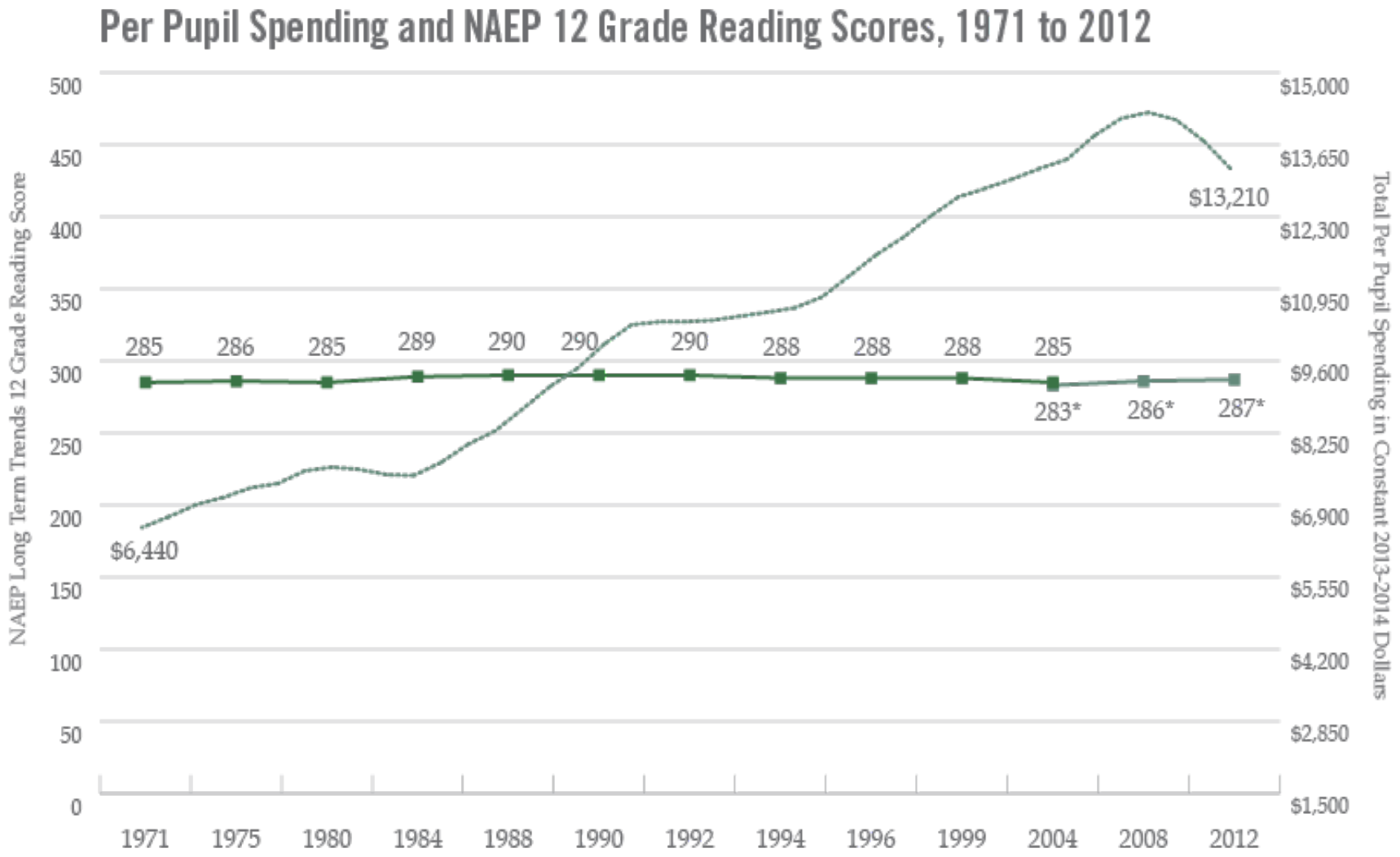
How Has the Current System Performed Recently?



*Revised assessment format

Sources: The Nation's Report Card "NAEP 2012 Long-Term Trends in Academic Progress"; NCES Digest of Education Statistics 2014

What We Spent; What We Got For It



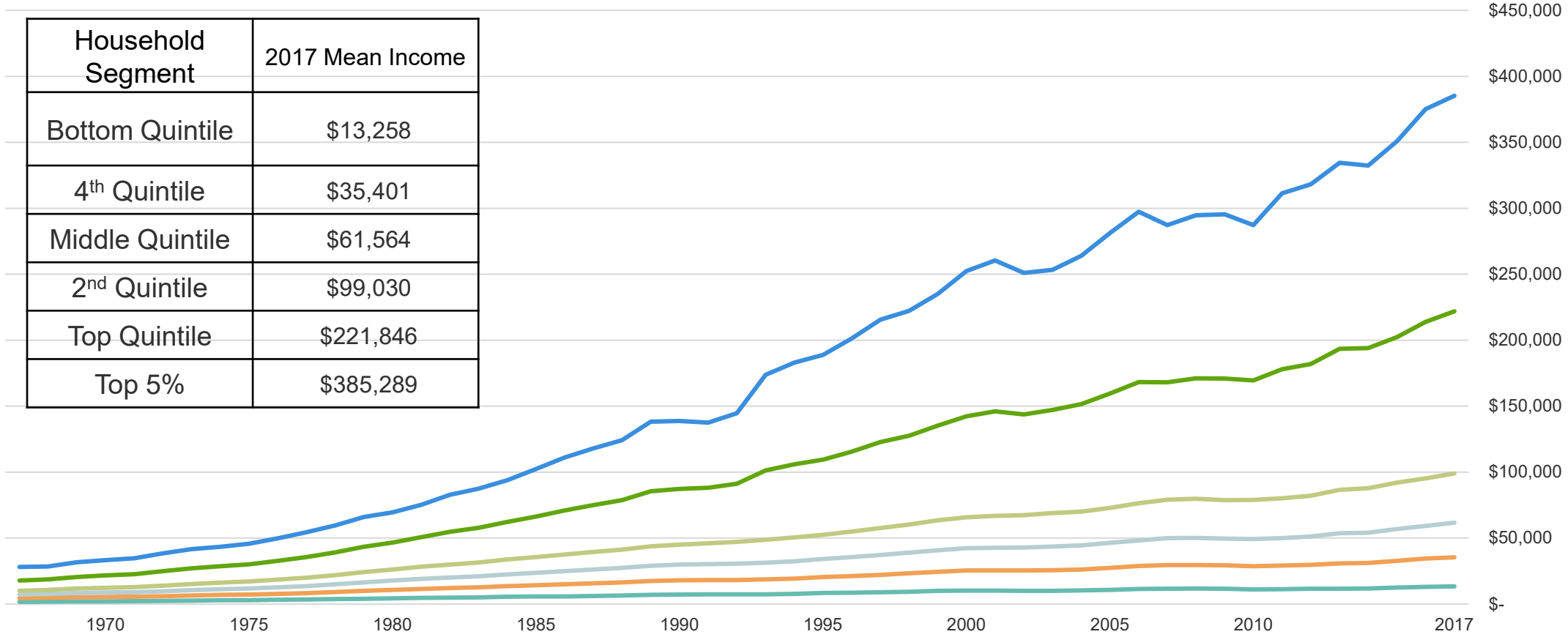
*Revised assessment format

Sources: The Nation's Report Card "NAEP 2012 Long-Term Trends in Academic Progress"; NCES Digest of Education Statistics 2014

Income Distribution: The Last Half Century

Mean (Average) Household Income
by Quintile and Top 5%

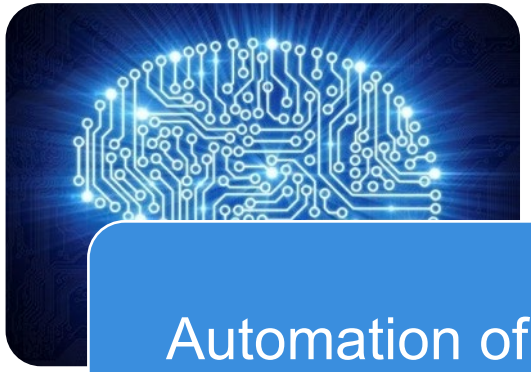
Household Segment	2017 Mean Income
Bottom Quintile	$13,258
4th Quintile	$35,401
Middle Quintile	$61,564
2nd Quintile	$99,030
Top Quintile	$221,846
Top 5%	$385,289



80s, 90s, and 00s: Global Economic Change

Low wage competition

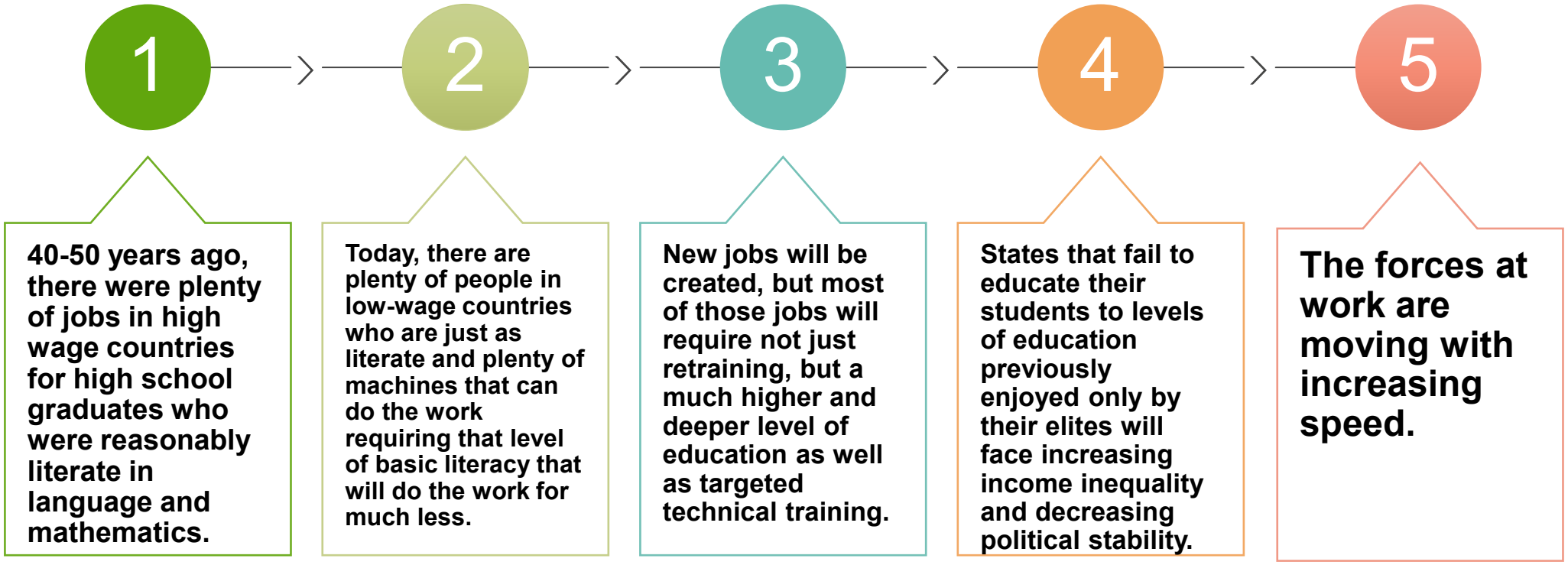
- Low skill
- High skill
- All skill levels



Automation of jobs involving routine work

Vast extinction of low-skill, routine work jobs in high-wage countries

Bottom line of economic argument…



But it’s about much more than economics …

So…What Do Young People Need to Compete in an A.I. World?

Deep understanding of the core concepts underlying the disciplines—the big ideas

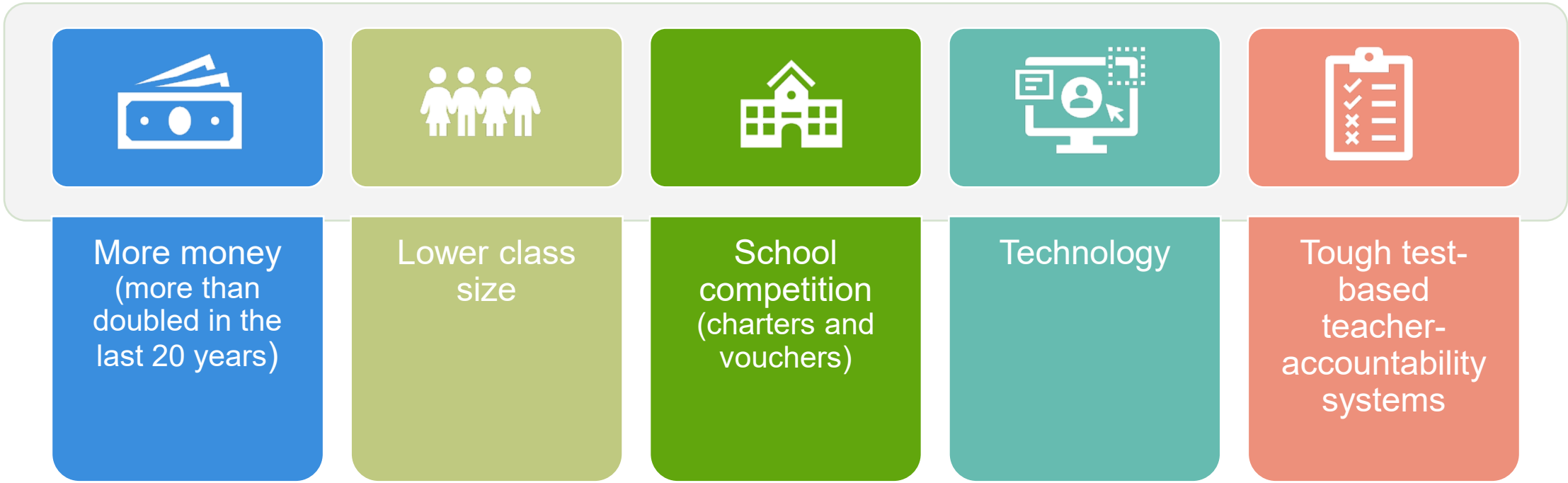
Ability to apply those concepts and ideas to wide range of practical problems

Full range of intrapersonal and interpersonal skills

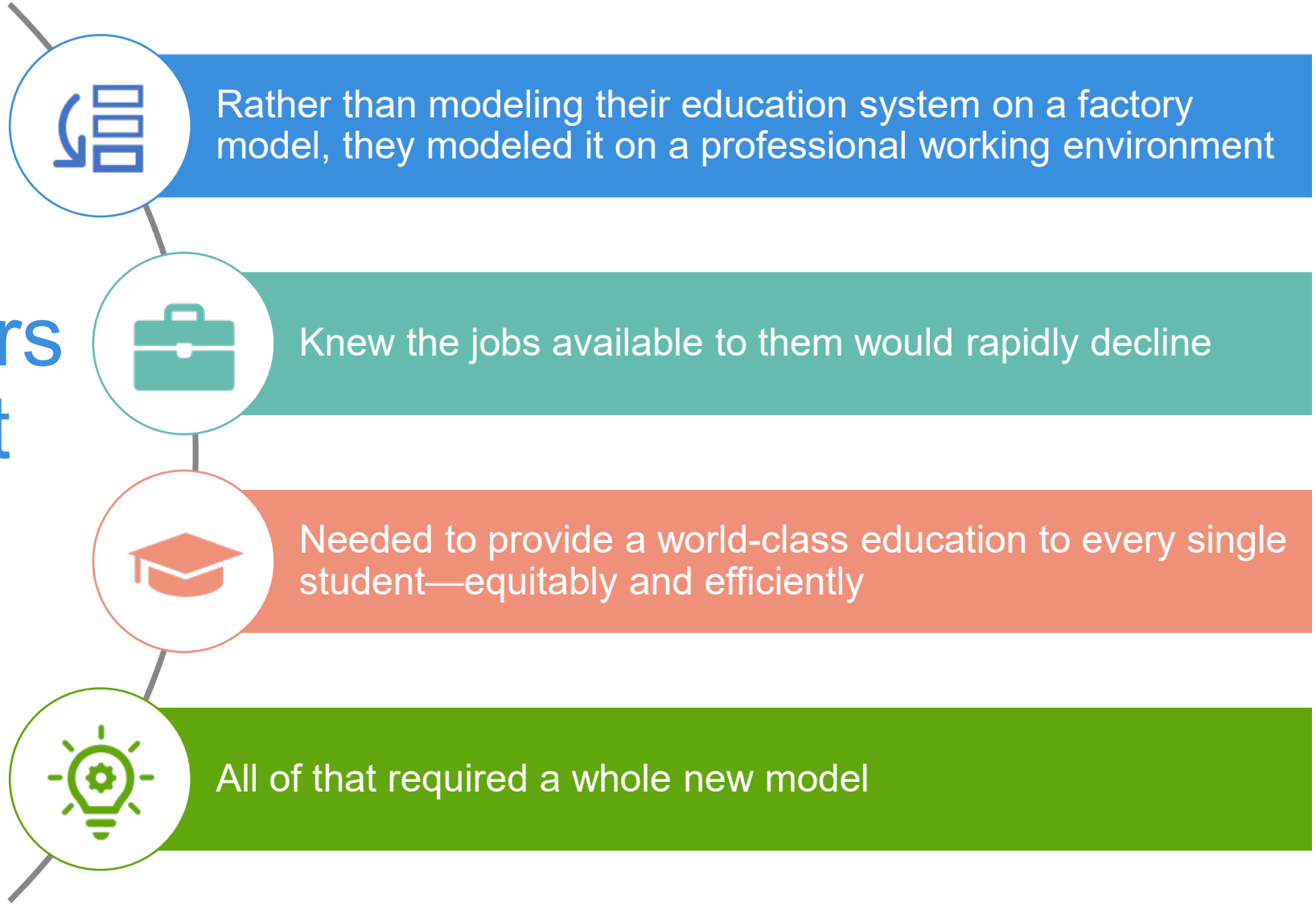
The moral and ethical grounding needed to make wise decisions

How the U.S. Responded

REFORM AGENDA SINCE THE 1970S



Our Competitors Had a Different Analysis



Student Learning Results Over Time - Excellence

PISA RESULTS OVER TIME

PISA - % Scoring Proficiency Levels 3+ by Subject and Jurisdiction

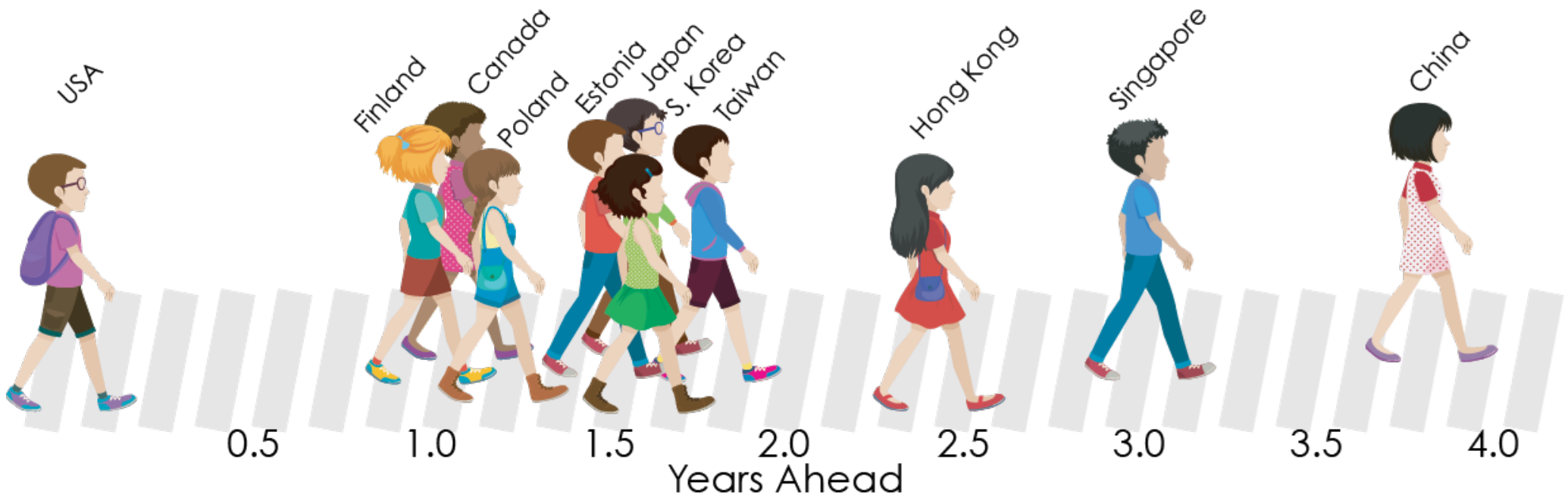
	United States			OECD Average			Canada			Singapore		
	Reading	Math	Science	Reading	Math	Science	Reading	Math	Science	Reading	Math	Science
PISA 2009	58.1	52.2		57.2	55.9		69.6	69.8		69.0	77.1	
PISA 2012	58.5	47.9	55.1	58.5	54.4	57.6	69.7	65.2	68.6	73.4	79.5	73.7
PISA 2015	58.1	44.4	54.2	56.7	54.1	54.0	70.3	65.2	68.8	71.9	79.9	75.3
PISA 2018	59.6	48.7	57.8	53.6	53.8	52.2	66.2	62.9	64.1	74.5	81.9	75.9

Data Sources

Average score data from the PISA Data Explorer
2012 Massachusetts data from PISA Key Findings
Participation data from NCES
OECD member country data from PISA reports: 2009 2012 2015 2018

Just How Far Behind?

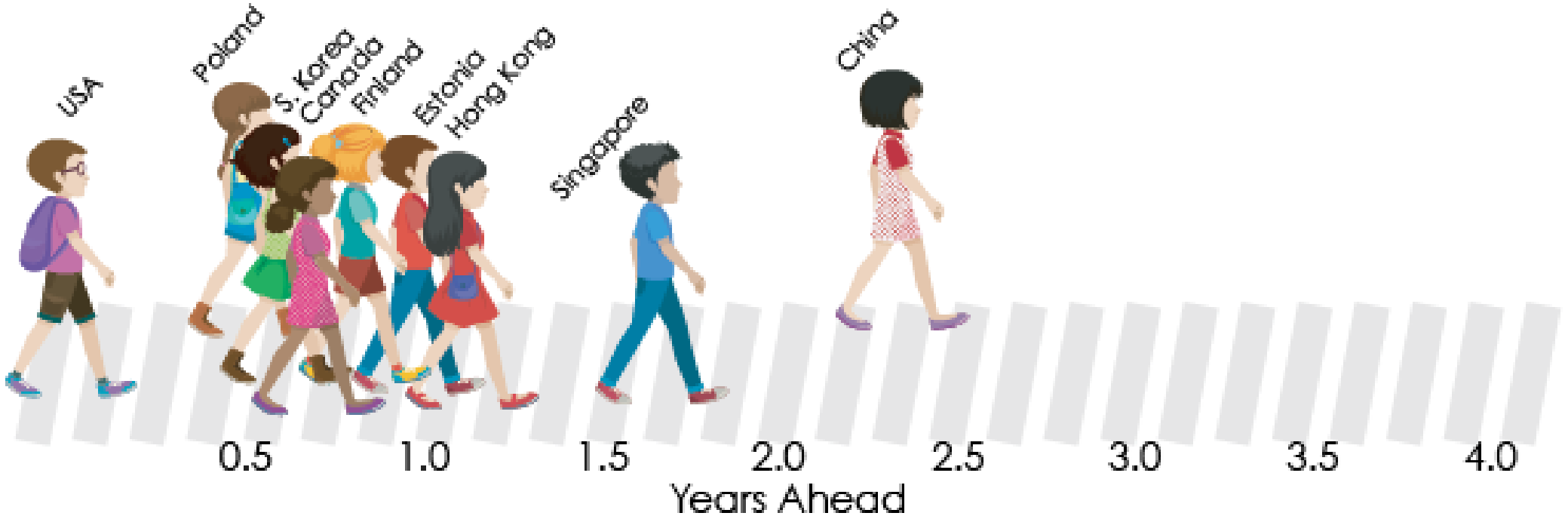
AVERAGE STUDENT PERFORMANCE IN **MATHEMATICS**, PISA 2018



In mathematics performance, average U.S. students are more than a year behind students from the top-performing countries. Students in Hong Kong and Singapore are between 2.5 and 3 full years ahead of average U.S. students in math, while Chinese students are nearly 4 full years ahead of U.S. students.

Just How Far Behind?

LOW-PERFORMING STUDENTS IN READING, PISA 2019



Low-performing students are those in the 25th percentile of performance. In reading, low-performing students from many top-performing countries are around half a year ahead of low-performing U.S. students. Low performers in Singapore are 1.5 years ahead and Chinese low-performing students are almost 3 years ahead of low-performing students in the U.S.

Student Learning Results Over Time - Equity

PISA RESULTS OVER TIME

PISA Equity Metrics

Top Performers = share of those scoring Level 5 or 6 in at least one subject
Low Achievers = share of those scoring below Level 2 in all three subjects

	United States		OECD Average		Canada		Singapore	
	Top Performers	Low Achievers	Top Performers	Low Achievers	Top Performers	Low Achievers	Top Performers	Low Achievers
PISA 2015	13.3%	13.6%	15.3%	13.0%	22.7%	6.4%	39.1%	4.8%
PISA 2018	17.1%	12.6%	15.7%	13.4%	24.1%	5.9%	43.3%	4.1%

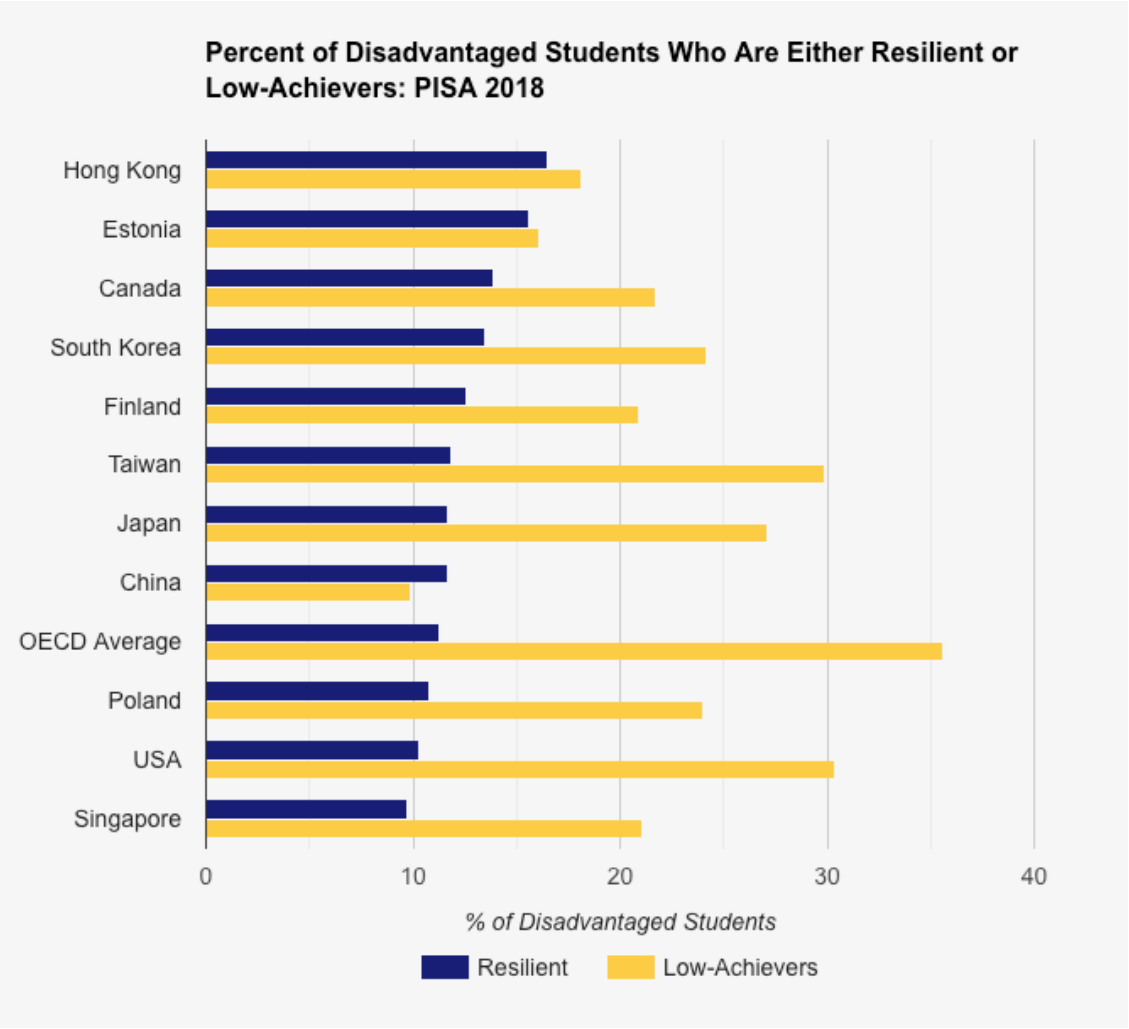
Data Sources

Data source: OECD, PISA 2018 Executive Summary Table I.1
Data source: PISA 2015 Results in Focus, Page 5

Measure of Equity: Resilience

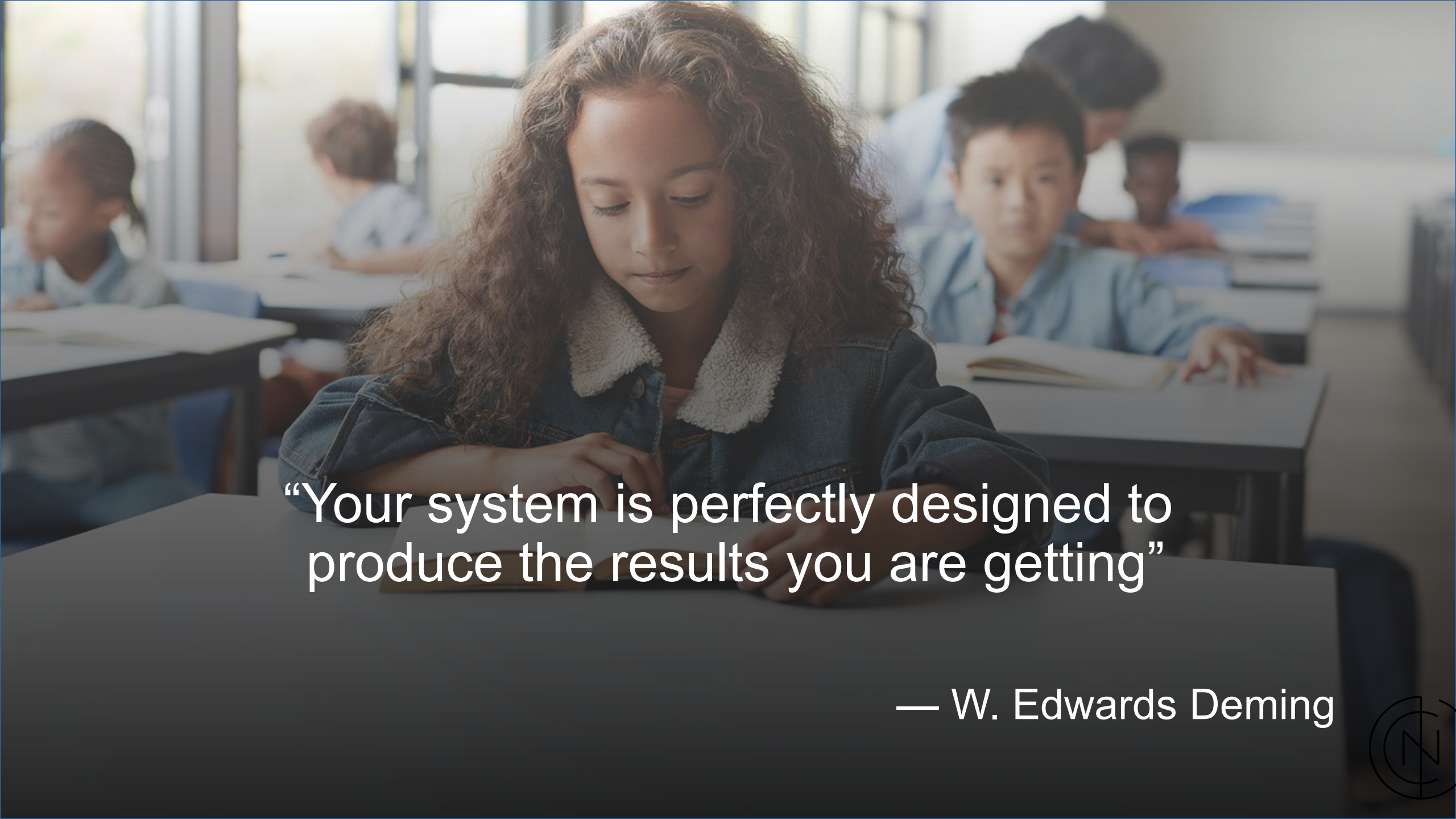
This chart shows the percentage of disadvantaged students who perform at the highest levels of achievement on PISA (resilience) compared to those who perform at the lowest levels.

In some countries, disadvantaged students are more likely to perform at higher levels than lower levels.



Interpreting the U.S. Results

- Over 80% of U.S. students can: ID a main idea, recognize cause and effect, say if conclusions are warranted
- …But only 60% can compare distances on roads or convert currencies
- …Only 14% can distinguish between fact and opinion
- …And only 9% can apply scientific knowledge to unfamiliar situations

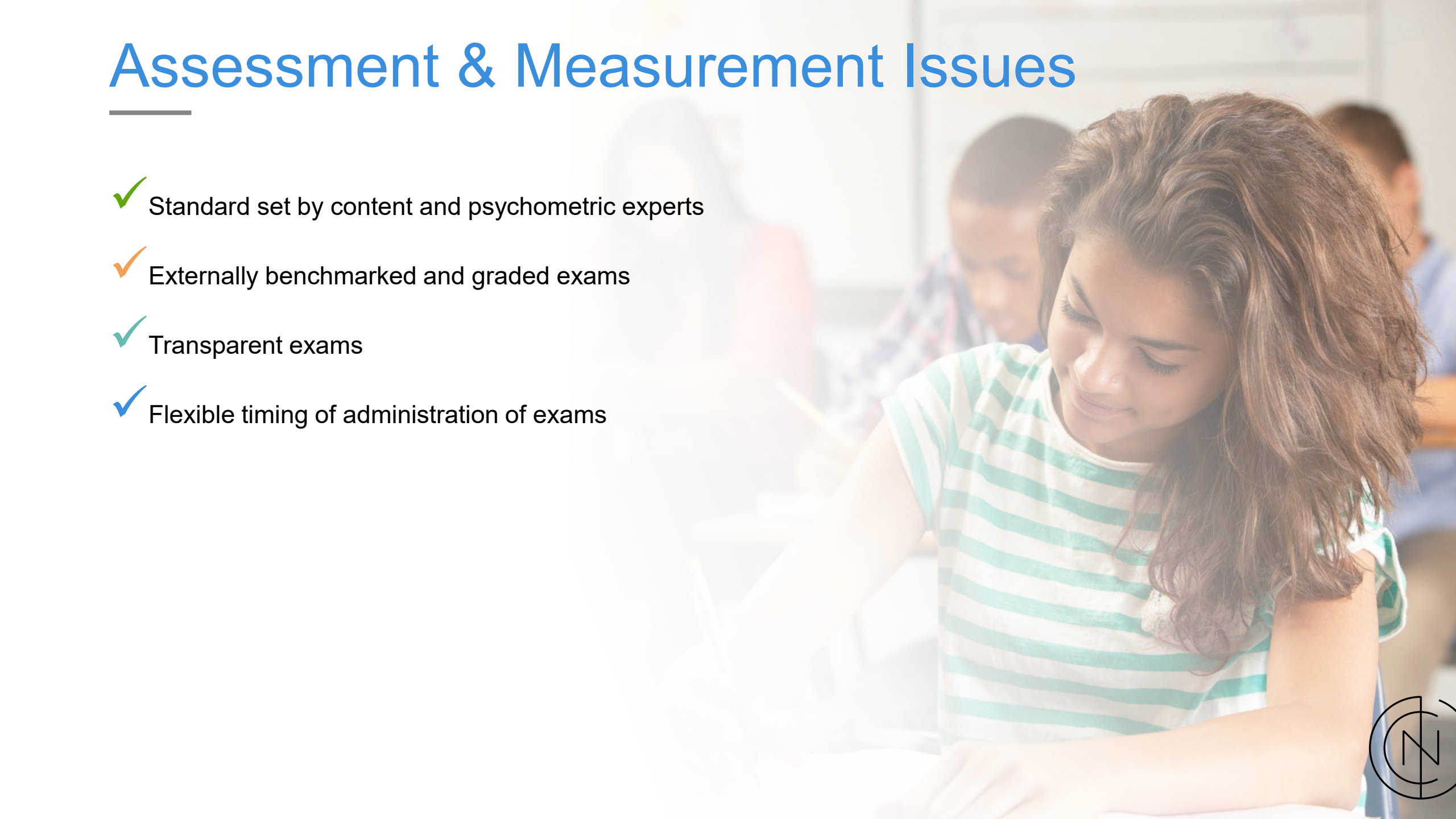

“Your system is perfectly designed to produce the results you are getting”
— W. Edwards Deming

Proficiency-Based Learning

PART II

Assessment & Measurement Issues

- ✓ Standard set by content and psychometric experts
- ✓ Externally benchmarked and graded exams
- ✓ Transparent exams
- ✓ Flexible timing of administration of exams



Ways in Which Schools Change

- Length of "courses”
- The speed at which students progress
- Addressing learning gaps early
- Student discipline issues decrease
- Parental engagement increases
- Teacher retention

Teacher Retention Rates for Imagine Prep Surprise

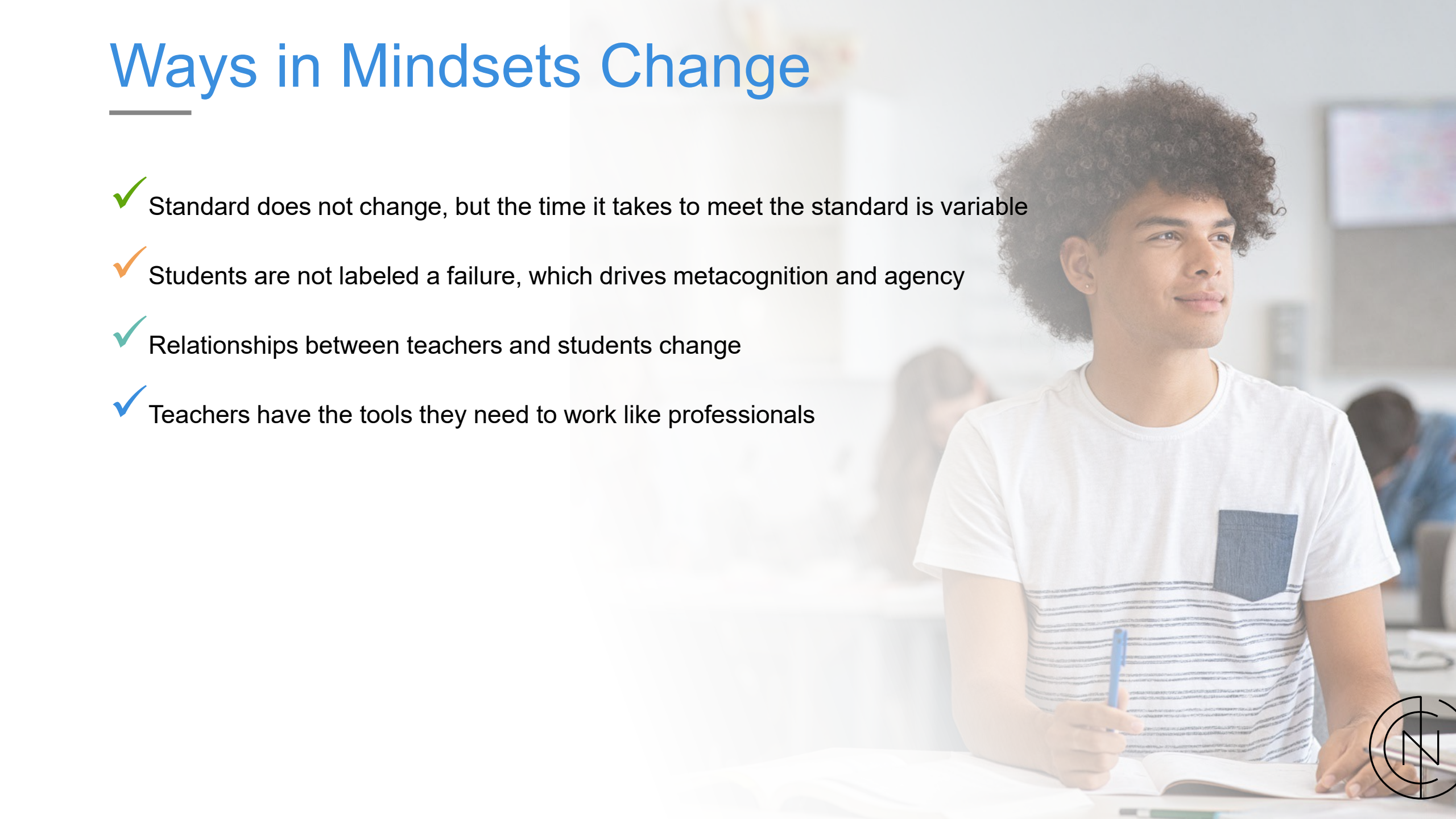
93% teacher retention over last 5 years

76% staff retention over last 5 years

>20% staff have been there for 10+ years

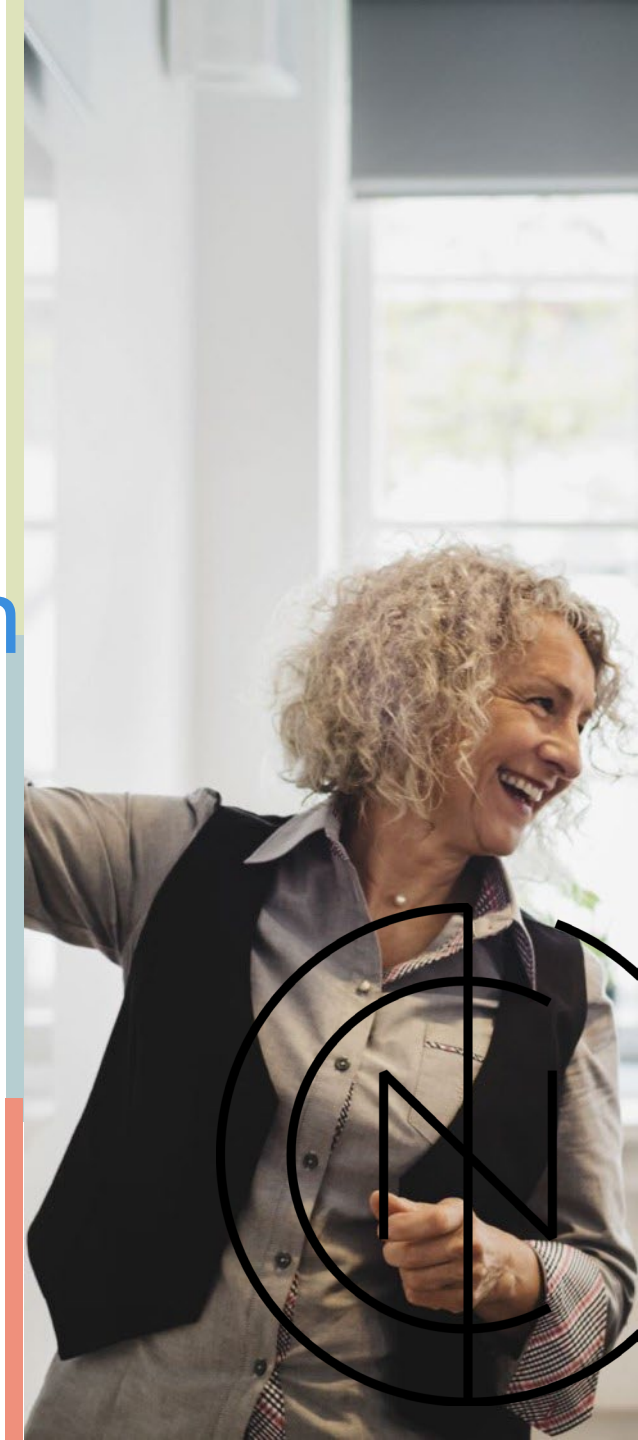
Ways in Mindsets Change

- Standard does not change, but the time it takes to meet the standard is variable
- Students are not labeled a failure, which drives metacognition and agency
- Relationships between teachers and students change
- Teachers have the tools they need to work like professionals



Transforming the Teacher Profession

PART 3



A Professional Work Environment for Teachers

Imagine a school where, teachers have time & opportunities to:

Current Redesign Efforts in CA & MS

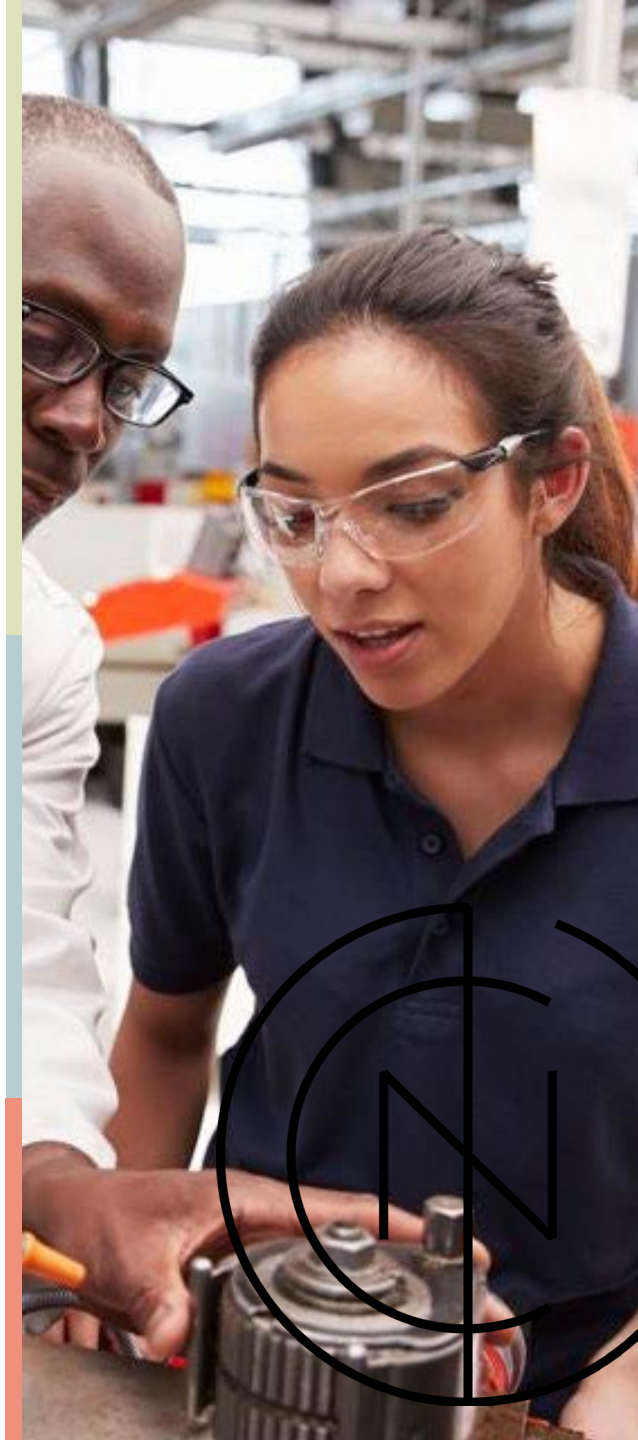
- Career progression that allows teachers to stay in the classroom
- Increased compensation with advancement up the ladder
- Best teachers mentor and coach newer or struggling teachers
- Both afforded time to work with mentors/mentees
- Time dedicated to collaborative lesson planning, peer observation, debrief, 1-on-1 and small group intervention, parental engagement
- Addresses both induction and leadership development
- Supportive and evaluative

New Mexico Making Progress

- Long-time Partnership with Teacher Preparation Programs
- Tiered-licensure System with Performance Evals for nearly 20 years
- Cultural Competency and Diverse Teachers – 2022 HB 60
- Grow-Your-Own Scholarship - 2021 HB 22
- Teacher Salaries - $10k raise – 2022 SB 1
- Teacher Residencies - 2022 HB 13
- Recruiting Retired Teachers – 2022 HB 73
- Teacher Prep/PD on Science of Reading in 2023

Career and Technical Education

PART 4



Switzerland Youth Apprenticeship

- 70% Swiss high school students enroll in apprenticeships starting in grade 10
- Employers set the standards, commit to training students in their workplaces, and assess their learning
- Combines school-based learning with paid work hosted by employer
- Three-to-four-year learning experience resulting in nationally recognized credential
- Graduates can access further education in an academic or applied university

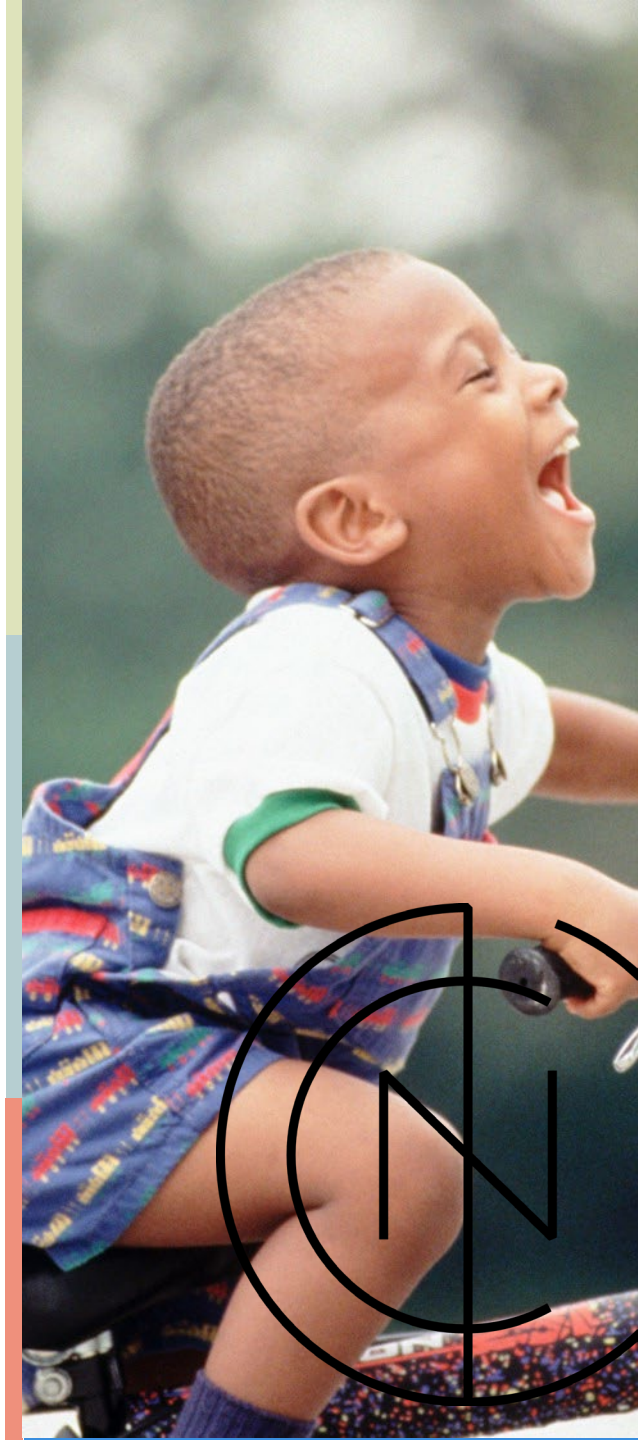
NCSL
NATIONAL CONFERENCE OF STATE LEGISLATURES

CareerWise Colorado

NCSL Webinar: https://www.ncsl.org/research/education/careerwise-colorado-youth-apprenticeship-inspired-by-swiss-vet.aspx

Early Childhood Education

PART 5

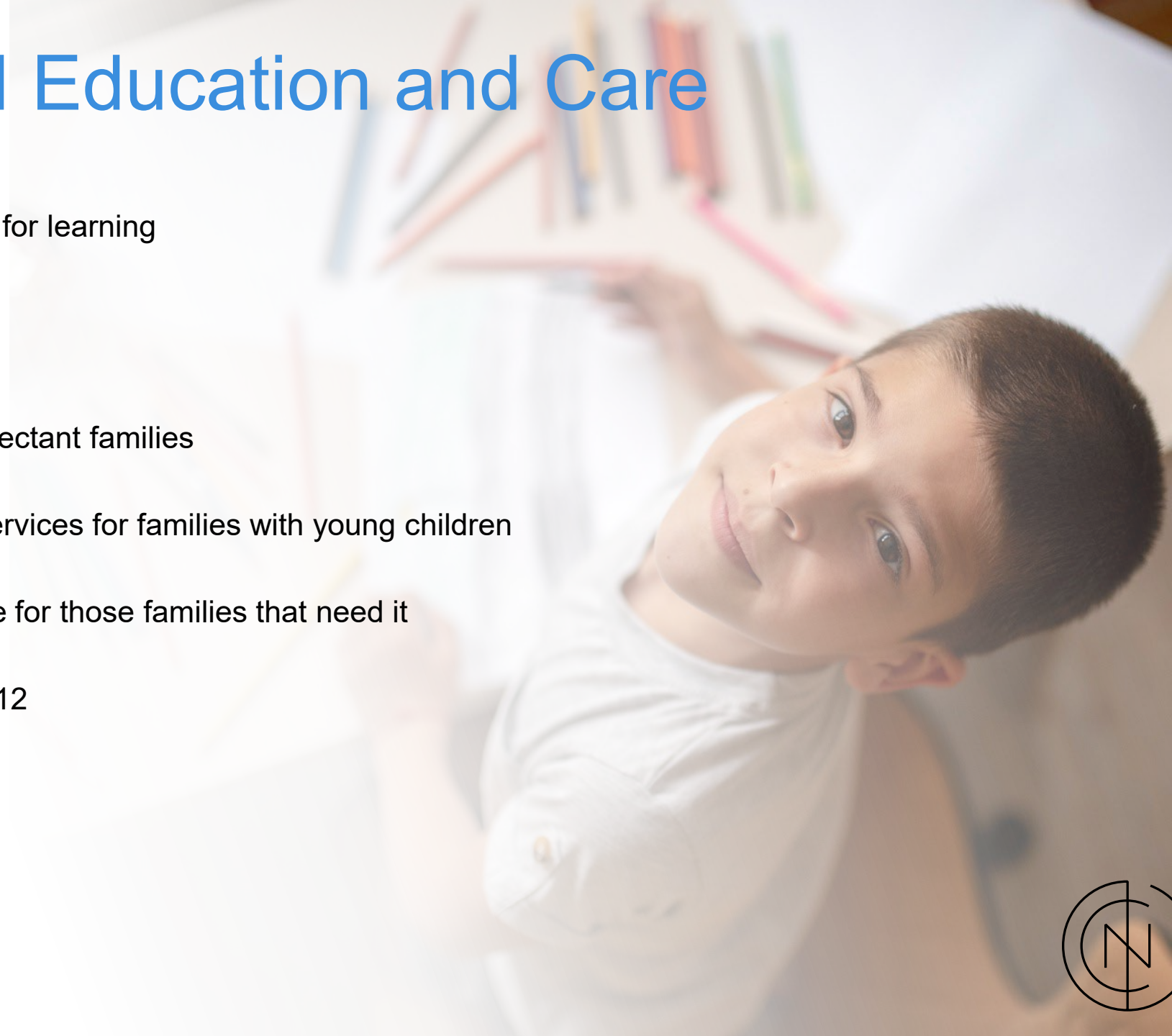


Early Childhood Education and Care

Goal: to ensure a strong foundation for learning

Components:

- ✓ parenting supports for new and expectant families
- ✓ comprehensive health and social services for families with young children
- ✓ high quality and affordable childcare for those families that need it
- ✓ high quality preschool aligned to K-12
- ✓ foundational literacy and numeracy



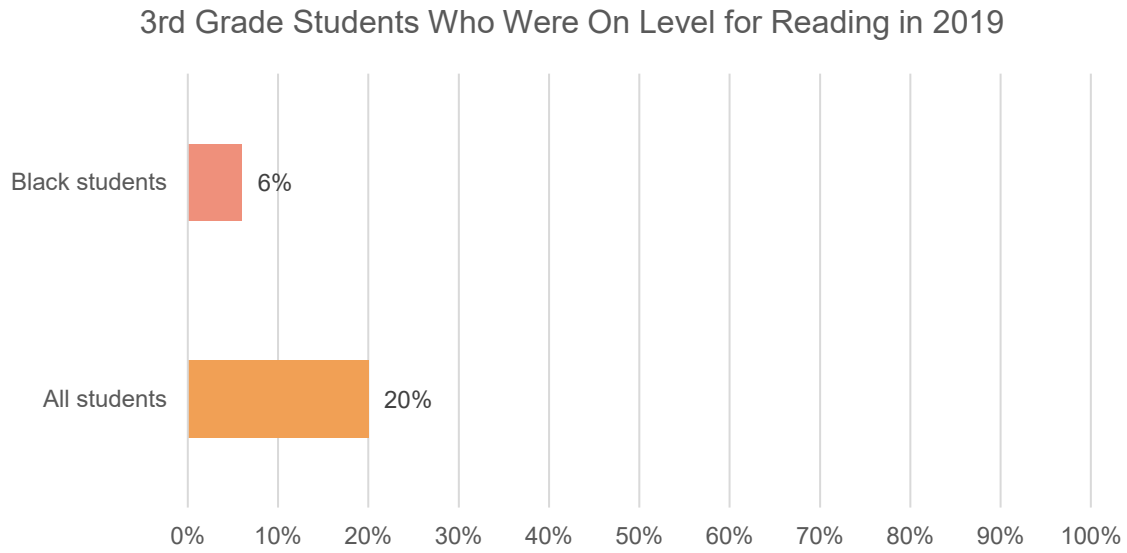
Derry Area SD Early Childhood Support

- ✓ Developed via a federal Striving Readers grant but has continued through partnerships, particularly with the United Way
- ✓ Welcome Baby Package & Imagine Library
- ✓ Infant, Toddler & Preschool Storytime
- ✓ Teaching Tiny Trojans kindergarten readiness program
- ✓ Kindergarten readiness screener
- ✓ **Kindergarten readiness tripled** from about 25% to 75% by the end of the initial five-year grant period

Racine USD Early Reading Initiative

Analysis revealed the problem was systemic:

- ✓ Poor curriculum alignment & coherence
- ✓ Limited teacher professional learning
- ✓ Lack of clarity about roles & responsibilities
- ✓ Poor monitoring of student growth
- ✓ Lack of coordination between programs
- ✓ Competing priorities



Strategy

- ✓ Adopt a coherent approach based on science of reading and with culturally responsive reading materials
- ✓ Focus on K & 1 in 2021-22 (add grade 2 then 3 in subsequent years)
- ✓ Establish a common, instructionally-sensitive measure for monitoring student growth
- ✓ Clearly establish school leadership responsibility for instruction, supported by other district roles and resources
- ✓ Prioritize resources to support this initiative

Year 1 Results for Grade 1 by School

DISTRIBUTION ACROSS PERFORMANCE CATEGORIES (SEPT TO MAY) BY SCHOOL

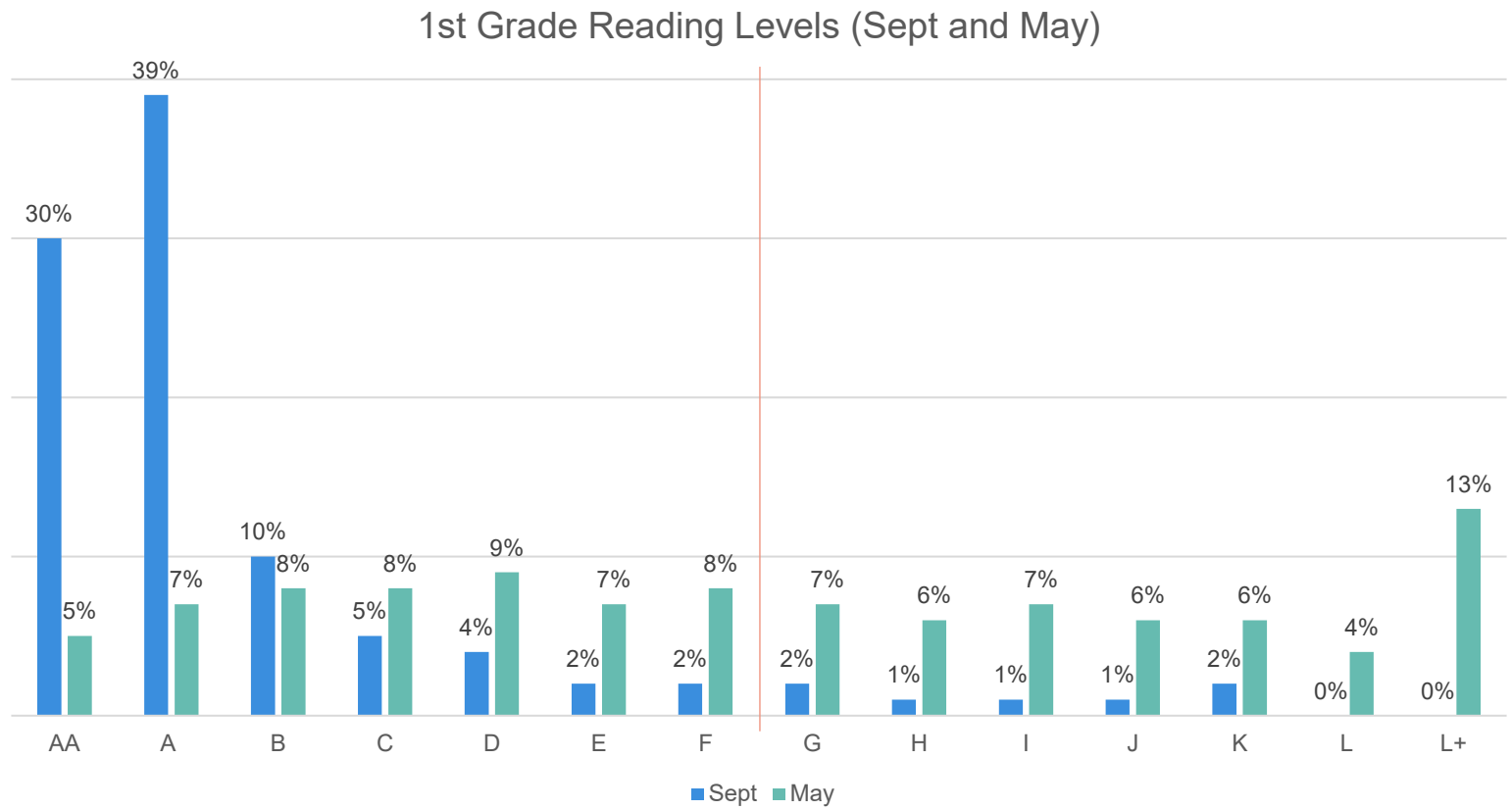
	Sept					May							
	Urgent	Needs Focused Instruction	Making Good Progress	Proficiency	Total	Urgent	Needs Focused Instruction	Making Good Progress	Proficiency	Total	SEPT Greens	May Greens	Net Change
[redacted]	91%	0%	0%	9%	35	57%	9%	16%	18%	44	9%	35%	**25%**
[redacted]	95%	0%	0%	5%	37	44%	6%	22%	28%	36	5%	50%	**45%**
[redacted]	93%	4%	0%	4%	28	64%	11%	9%	17%	47	4%	26%	**22%**
[redacted]	90%	3%	3%	5%	40	63%	6%	11%	20%	35	8%	31%	**24%**
[redacted]	71%	12%	6%	12%	52	42%	14%	12%	32%	38	3%	40%	**37%**
[redacted]	92%	0%	8%	0%	13	64%	12%	8%	16%	25	8%	24%	**16%**
[redacted]	91%	3%	3%	3%	65	75%	3%	9%	14%	74	6%	23%	**17%**
[redacted]	94%	3%	0%	3%	32	61%	0%	8%	32%	38	3%	40%	**37%**
[redacted]	68%	10%	10%	13%	31	58%	65	9%	27%	33	23%	36%	**13%**
[redacted]	85%	2%	4%	9%	54	48%	12%	13%	27%	60	13%	40%	**27%**
[redacted]	75%	2%	7%	17%	60	26%	11%	15%	48%	65	23%	63%	**40%**
[redacted]	73%	0%	0%	27%	11	69%	6%	6%	20%	35	27%	26%	**-1%**
[redacted]	97%	3%	0%	0%	35	79%	6%	15%	0%	34	0%	15%	**15%**
[redacted]	46%	13%	22%	20%	96	35%	15%	11%	39%	92	42%	50%	**8%**
[redacted]	100%	0%	0%	0%	30	50%	11%	18%	21%	28	0%	39%	**39%**
[redacted]	82%	4%	8%	6%	50	26%	6%	6%	62%	50	14%	68%	**54%**
[redacted]	73%	0%	4%	23%	26	43%	0%	20%	37%	51	27%	57%	**30%**
[redacted]	68%	9%	9%	14%	44	21%	5%	12%	63%	43	23%	75%	**52%**

This shows each school's overall gains in achievement from September to May. This data includes monolingual and dual language.

These results generally follow expectations about students' performance in the various schools. However, note Roosevelt, for example, where no students were making good progress toward the goal in September, but 39% had reached or exceeded the goal by May.

Year 1 Results for Grade 1

GROWTH BY STUDENT BASED ON A MATCHED SAMPLE



This chart reflects the reading levels for a ***matched sample*** of 1st graders with both a Sept. and May data point. The September distribution is in blue and the May distribution is in teal. The vertical red line reflects the 2021-2022 goal of G or higher.

Whereas almost 4 in 5 students began the year barely beginning to read, almost half finished the year meeting or exceeding their reading goal.

The Path Forward

QUESTIONS/DISCUSSION