Nevada's Commission on Innovation and Excellence in Education

National Center on Education and the Economy
January 18, 2024

NCEE

Keys to Successful Collaboration

Open Meeting Law Overview

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How do exceptional educational experiences create a **strong economy**, **thriving democracy**, and prepare people for **lives of purpose & hope**?

What makes education **exceptional**?

NCEE

Our Approach

We **power the field** by helping schools, districts, states, and far-flung jurisdictions learn from the world to discover what works today and anticipate what is emerging tomorrow.

We **blaze new paths** by creating new narratives for education and translating research into inspiring, actionable and trajectory-altering policy and program designs.

We **drive impact** in the field by demonstrating what's possible, unleashing the power of many, and meaningfully responding to today's challenges and tomorrow's possibilities.

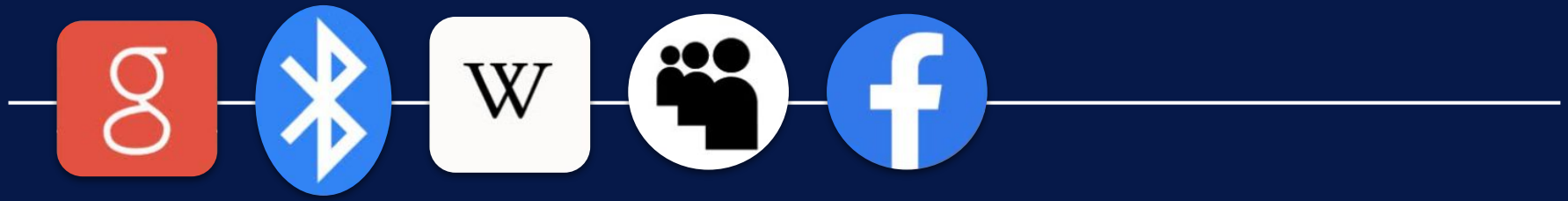

Young people and global trends
The future of learning & work

The world has **changed** for our students.

The world has changed for our students:

Post-secondary

Born between 2000–2004



2000

Source: Dr. Sabba Quidwai, Designing Schools

The world has changed for our students:

High School
Born between 2004–2008

Post-secondary
Born 2000–2004

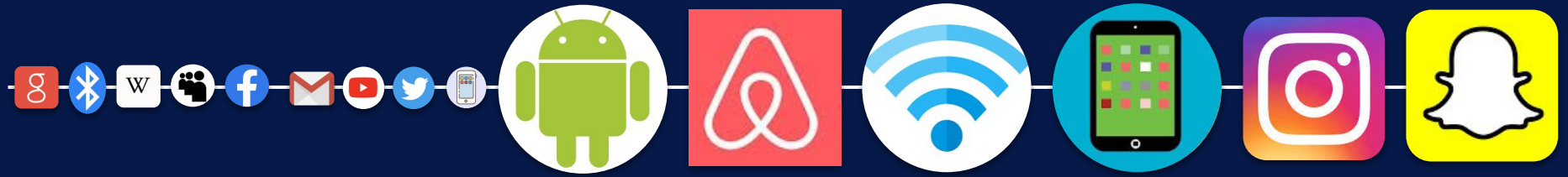
2000

2005

Source: Dr. Sabba Quidwai, Designing Schools

The world has changed for our students:

Middle School
Born between 2008–2019



Post-secondary
Born 2000–2004

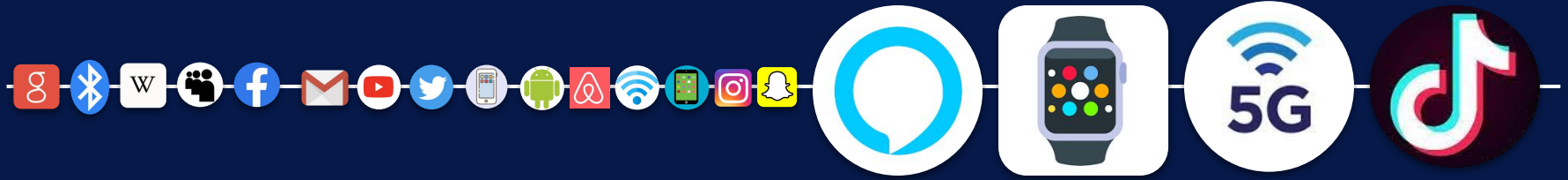
High School
Born 2004–2008

2000 2005 2010

Source: Dr. Sabba Quidwai, Designing Schools

The world has changed for our students:

Elementary School
Born 2011–2017



Post-secondary
Born 2000–2004

High School
Born 2004–2008

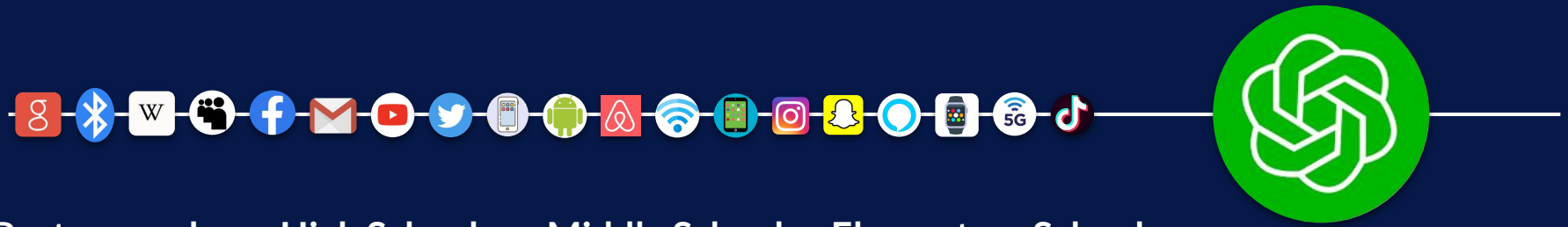
Middle School
Born 2008–2019

2000 2005 2010 2015

Source: Dr. Sabba Quidwai, Designing Schools

The world has changed for our students:

NOW



Post-secondary
Born 2000–2004

2000

High School
Born 2004–2008

2005

Middle School
Born 2008–2019

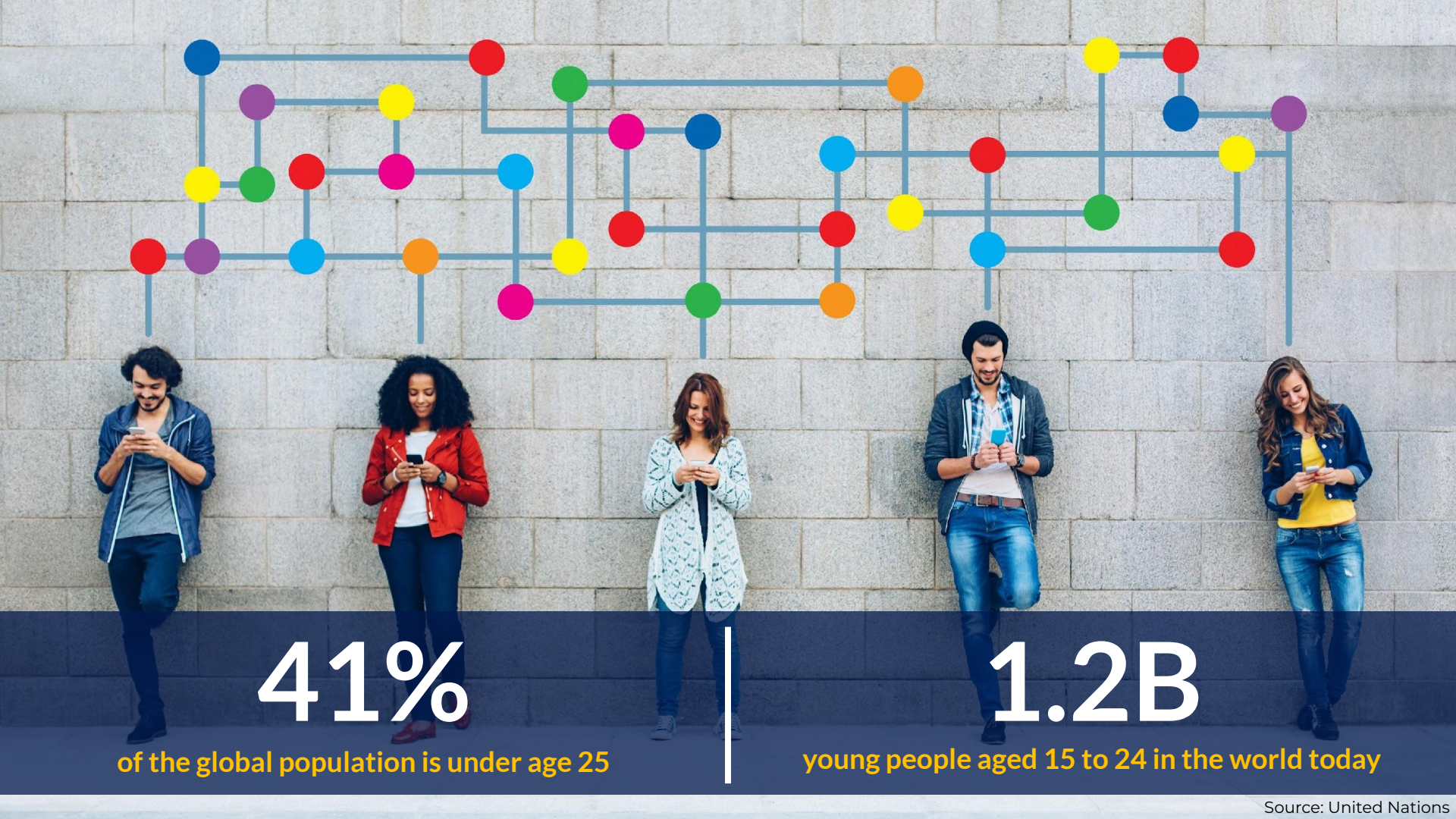
2010

Elementary School
Born 2008–2019

2015

2024

Source: Dr. Sabba Quidwai, Designing Schools



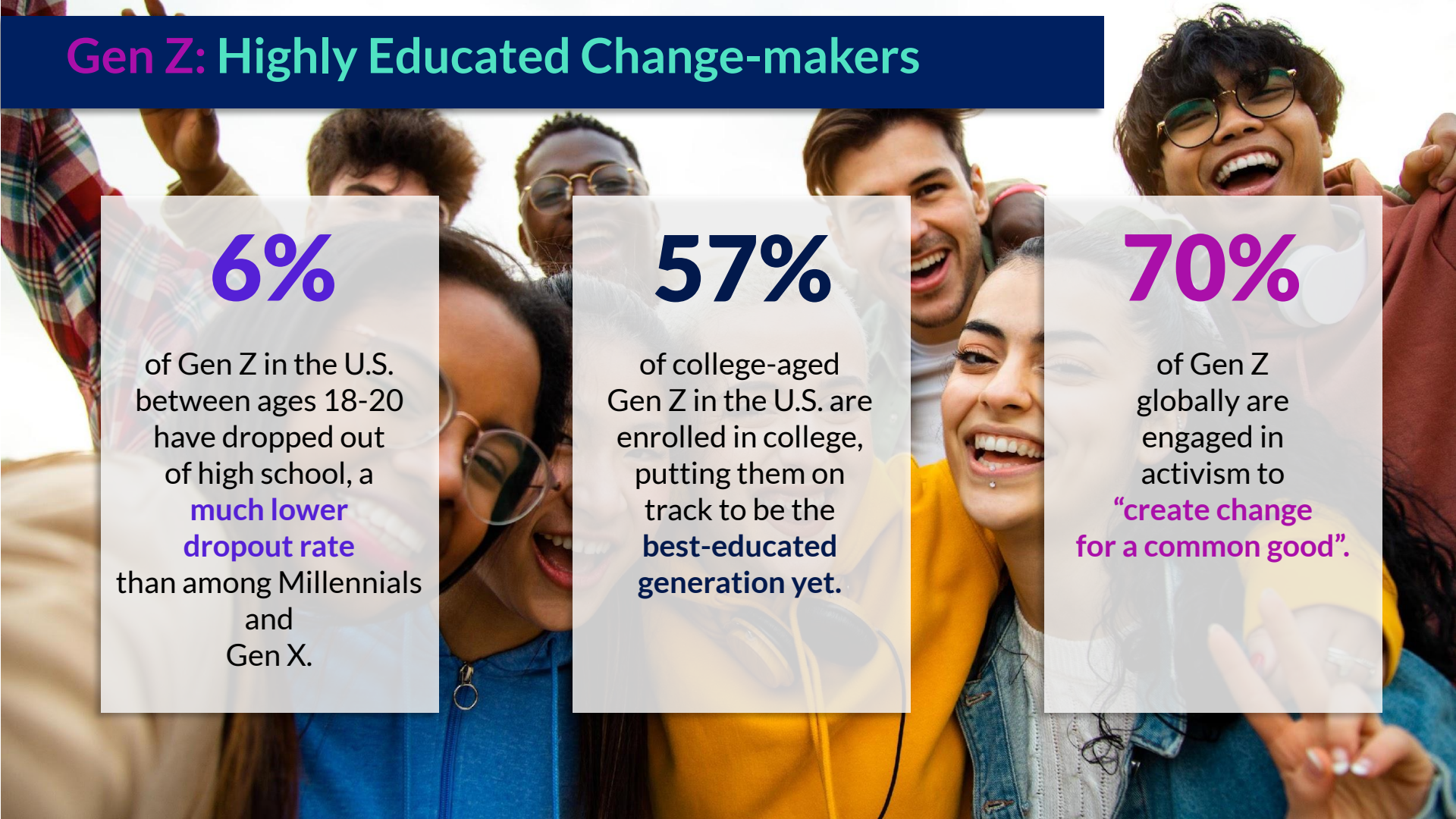
Source: United Nations

“Youth are hopelessly lost in their screens, drowning in the pursuit of digital affirmation through social media.”

~ Jonathan Haidt, social psychologist

Young people leveraging technologies to **solve the intractable problems** that older generations have proven unable or unwilling to address.

Gen Z: Highly Educated Change-makers



6%

of Gen Z in the U.S. between ages 18-20 have dropped out of high school, a **much lower dropout rate** than among Millennials and Gen X.

57%

of college-aged Gen Z in the U.S. are enrolled in college, putting them on track to be the **best-educated generation yet.**

70%

of Gen Z globally are engaged in activism to **"create change for a common good".**

Young people universally care about the same topics across the globe, although the priority may differ country to country.

Top issues are education, conservation, gender and human rights, sustainability, climate, mental health and wellbeing.

Source: The United Nations

Young people have faith in the power of the collective.

They value collective action over individual leadership and individual action.

Source: Paramount Collective

Participation, co-creation, and passion-based learning are core to how young people problem solve.

They want agency over their learning, and they want learning to reflect topics they connect with.

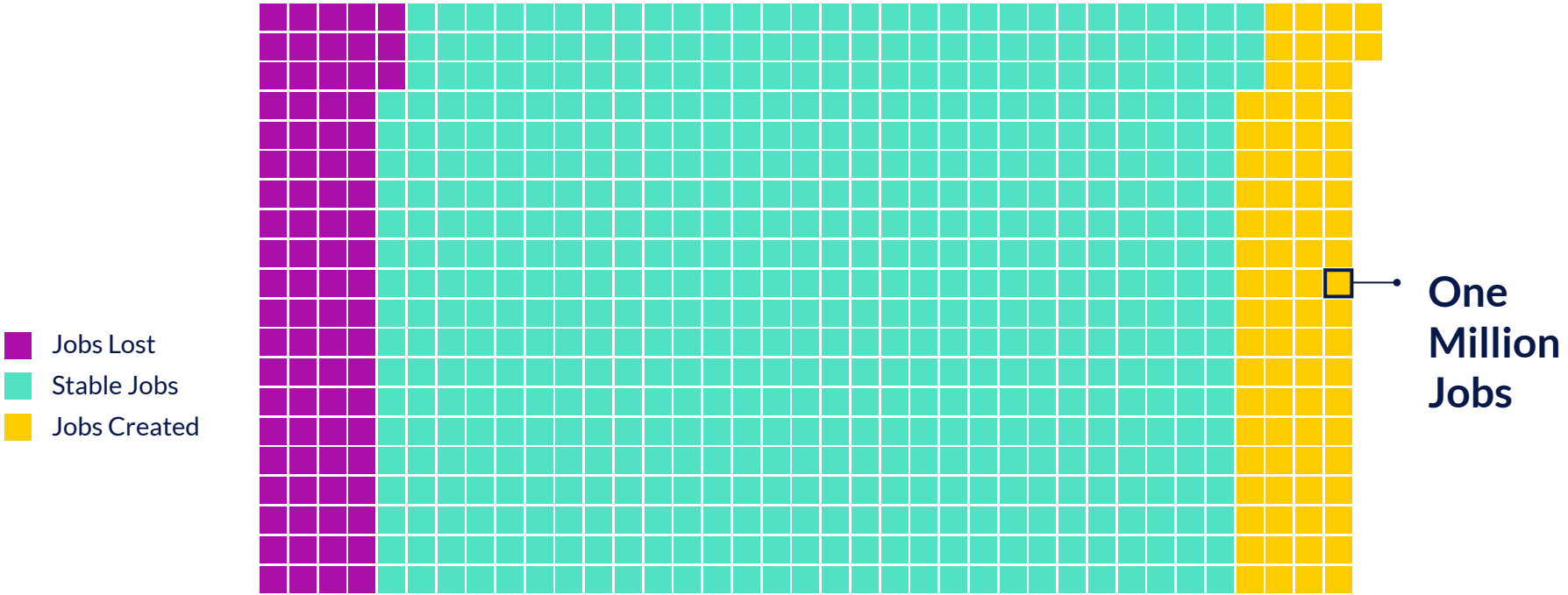
Source: The Buck Institute for Education

Young people benefit from intergenerational collaboration - working hand-in-hand with adult-led organizations to accelerate progress and access mentorship opportunities.

Adults benefit too.

Source: Forbes

The Changing World of Work:
23% Structural Labor Market Churn - Next 5 Years



Source: World Economic Forum, Future of Jobs Survey, 2023

Demand Across Industries

Top 20 job roles in increasing and decreasing demand across industries

Fastest-Declining Jobs

1. Bank clerks and related
2. Postal service clerks
3. Cashiers and ticket clerks
4. Data entry clerks
5. Administrative and executive secretaries
6. Material-recording and stock-keeping clerks
7. Accounting, bookkeeping, and payroll clerks
8. Legislators and officials
9. Statistical, financial, and insurance clerks
10. Door-to-door sales workers and related

Fastest-Growing Jobs

1. AI and machine learning specialists
2. Sustainability specialists
3. Business intelligence analysts
4. Information security analysts
5. Fintech engineers
6. Data analysts and engineers
7. Robotics engineers
8. Electrotechnology engineers
9. Agricultural equipment operators
10. Digital transformation specialists

Source: World Economic Forum, Future of Jobs Survey, 2023

Current Core Top Skills

Ranked by Importance

1. Analytical thinking
2. Creative thinking
3. Resilience, flexibility, and agility
4. Motivation and self-awareness
5. Curiosity and lifelong learning
6. Technological literacy
7. Dependability and attention to detail
8. Empathy and active listening
9. Leadership and social influence
10. Quality control
11. Systems thinking
12. Talent management
13. Service orientation and customer service
14. Resource management and operations
15. AI and big data
16. Reading, writing, and mathematics
17. Design and user experience
18. Multi-lingualism
19. Teaching and mentoring
20. Programming
21. Marketing and media
22. Networks and cybersecurity
23. Environmental stewardship
24. Manual dexterity, endurance and precision
25. Global citizenship
26. Sensory-processing abilities

- Cognitive skills
- Engagement skills
- Ethics
- Management skills
- Physical abilities
- Self-efficacy
- Technology skills
- Working with others

Source: World Economic Forum, Future of Jobs Survey, 2023

Social Trends Are Also Shaping the Future

Online friends

Remote work, Remote or hybrid schooling

Mental health crisis

Living longer

Social media, Social commerce, Augmented reality

What Do Young People Need to Thrive Now and in The Future?

Academic Mastery
Students exhibiting their learning and growth against high academic standards on an ongoing/daily basis.

Habits of Learning and Well-Being
Students develop an understanding of the power of learning and acquire skills that allow them to contribute to their own well-being and life satisfaction.

Contemporary Skills
Students develop skills connected with future career success such as communication, collaboration, creative thinking, adaptive reasoning, the ability to stare down and learn from failure.

Community Skills
Students develop skills that enable them to contribute beyond themselves such as personal and civic responsibility, seeking out the perspectives of others, courage, curiosity, respect, fairness, compassion.

What evidence do we have that our students are developing these skills?

The Charge to Compare Globally

Commission on Innovation and Excellence in Education

On June 15th, 2023, during Nevada's 82nd Legislative Session, SB425 was passed into law. The bill establishes the **Commission on Innovation and Excellence in Education** to develop a statewide vision and implementation plan to improve the public education system in this State.

Section 4 of this bill requires the Commission to:

1) **conduct a study comparing the education policies of this State to those of high-performing international and domestic education systems;**
2) make recommendations on how to adapt the appropriate education policies of those high- performing education systems into the public education system in this State;
3) make recommendations on how to put the performance of pupils in this State in parity with the performance of those pupils in high-performing education systems;
4) incorporate any relevant findings of any previous or ongoing studies related to funding for education; and
5) develop an implementation plan for the recommendations made, including an analysis of the costs involved.

Nevada Commission on Innovation and Excellence In Education

This Commission differs significantly from other education commissions because it:

- focuses on studying new evidence about the future and its impact on education;
- takes a global perspective on policy change; and
- links education systemically with workforce, economic development, and other sectors.

NCEE's Global Focus

Why look globally?

- As the world globalizes, **we compete with the world**, not just our neighbors.
- We face **common challenges** across the globe — climate, political division, advancing technology.
- Global leaders inform us about how they **adapt to a changing future.**
- We can **translate insights** from leading global systems to our states, rather than copy them.

Benchmarking Globally

Why PISA?

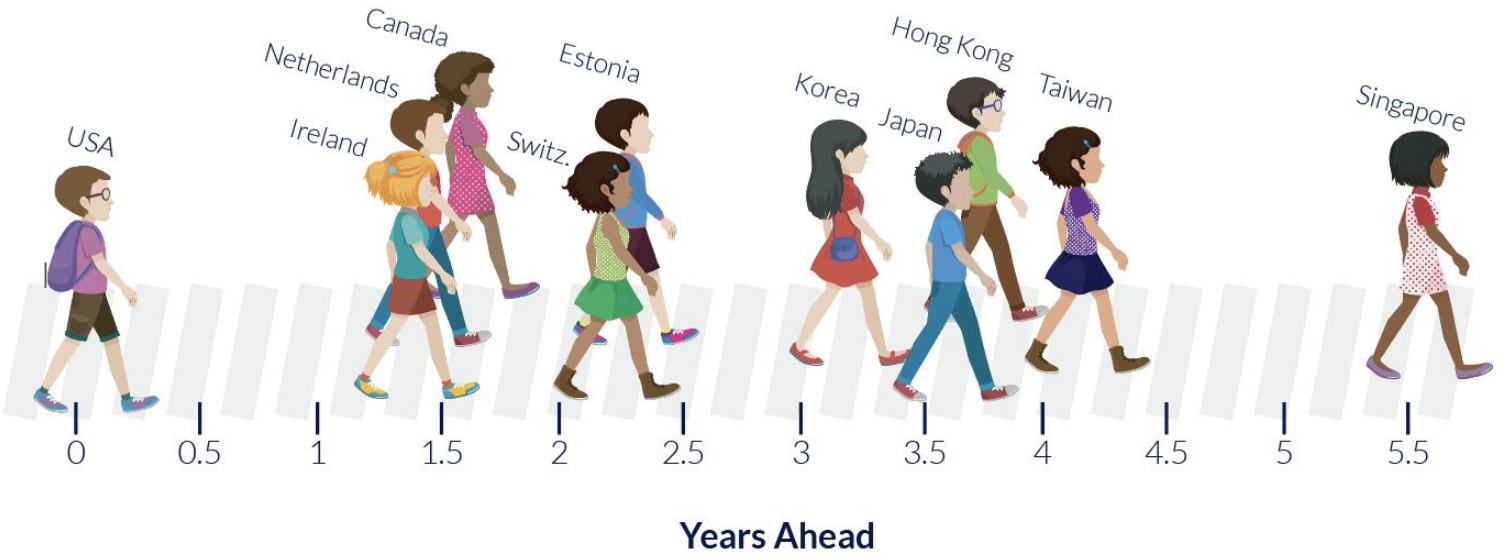
- Assessment of how well 15-year-olds in 81 countries can **apply what they know** in:
  - **Reading** literacy
  - **Mathematics** literacy (core domain)
  - **Science** literacy
  - **Creating Thinking** (in some countries)
- **Mixture** of multiple-choice and constructed response
- Measures **application and transfer** of knowledge
- Paired with survey of student self-efficacy, life satisfaction, and school culture — **not just a score**

Benchmarking Globally

What Does PISA Look Like?

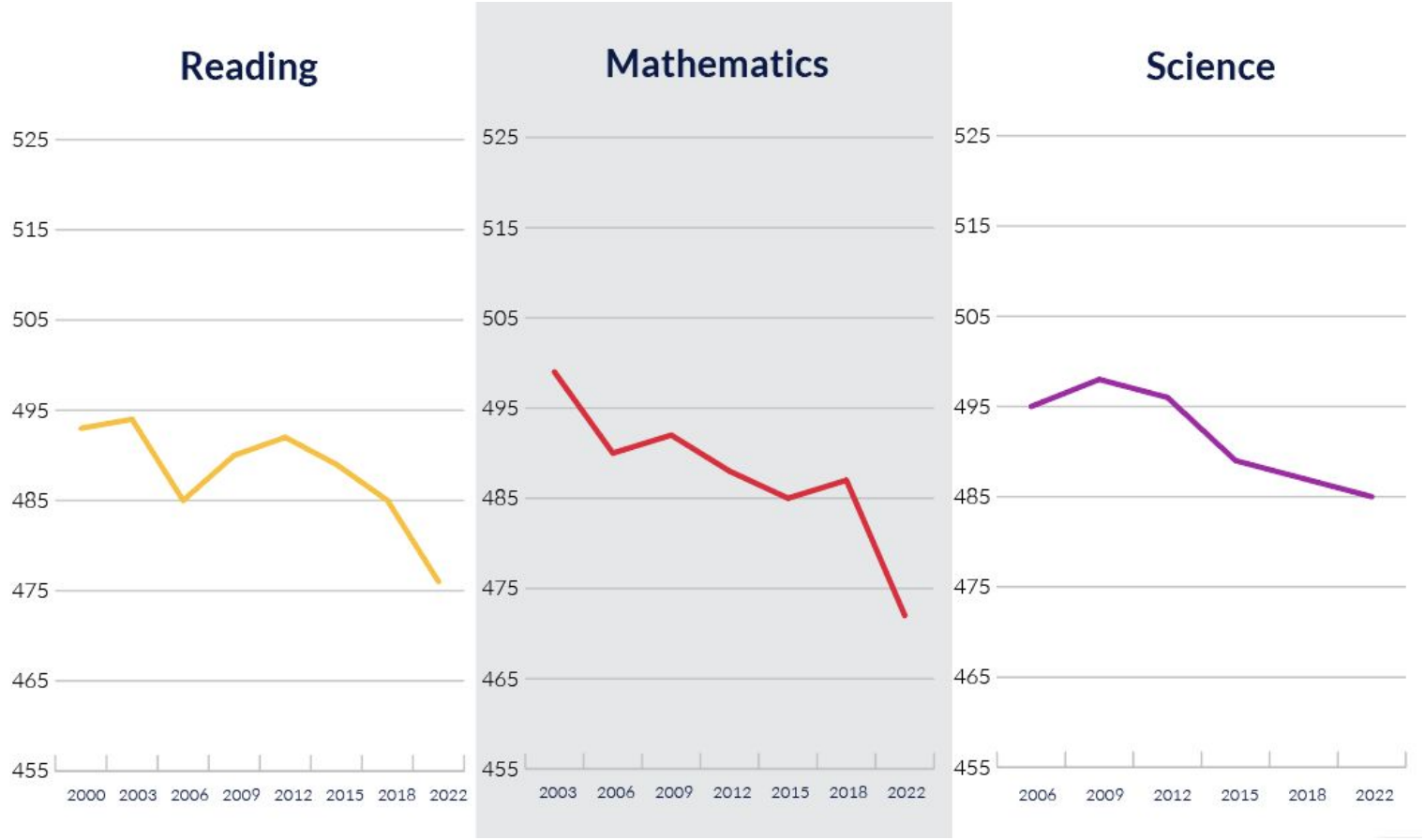
- **Computer-based** tests were used in most countries
- Assessments lasting a total of **two hours**
- Multi-stage **adaptive** approach
- **Mixture** of multiple-choice questions and questions requiring students to construct their own responses

How Far Ahead Are Global Top Performers in Mathematics?

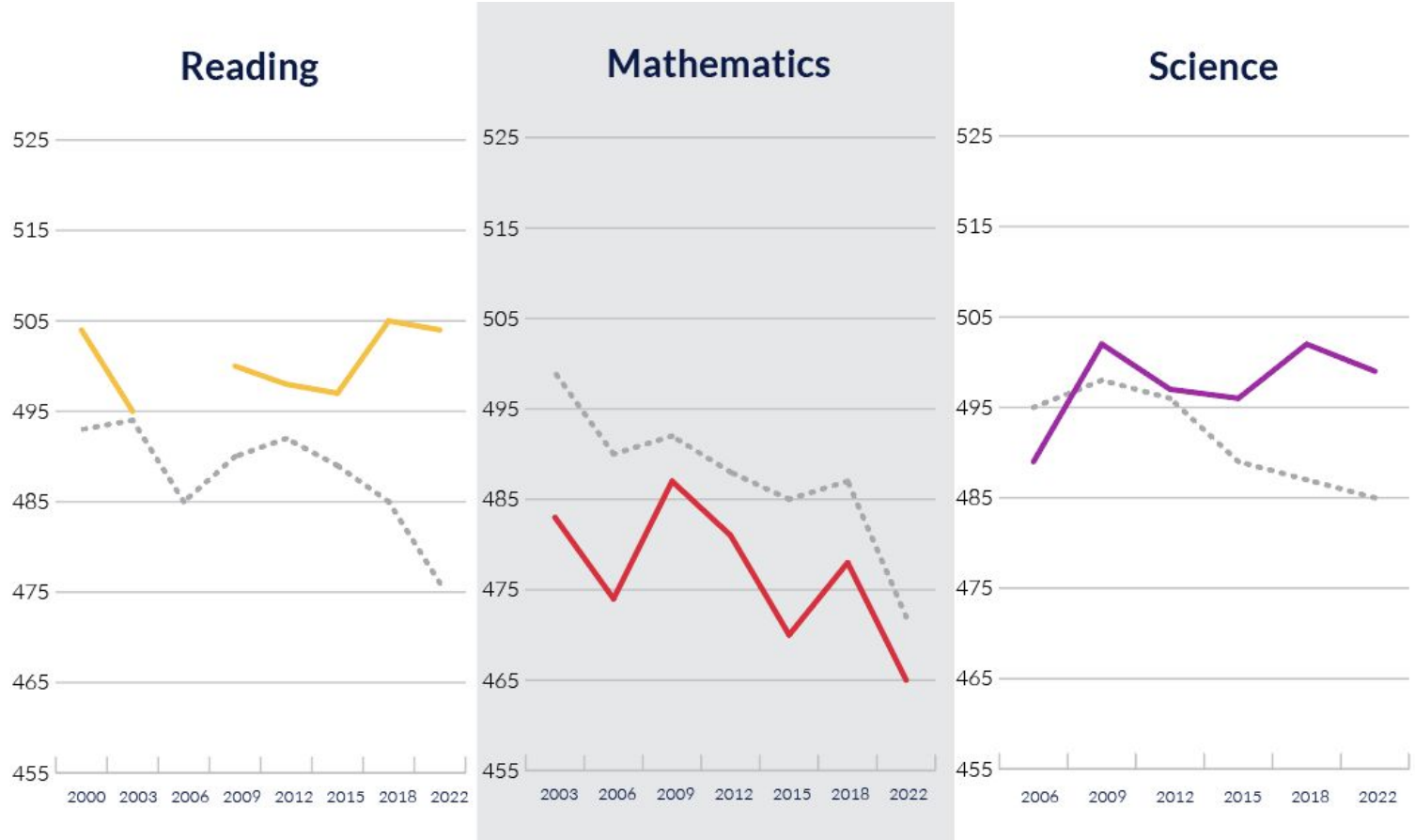


For PISA 2022, a score difference of 20 points is equivalent to a year of formal schooling. This graphic shows a selection of top-performers in math on PISA 2022 compared to the US based on difference in mean scores.

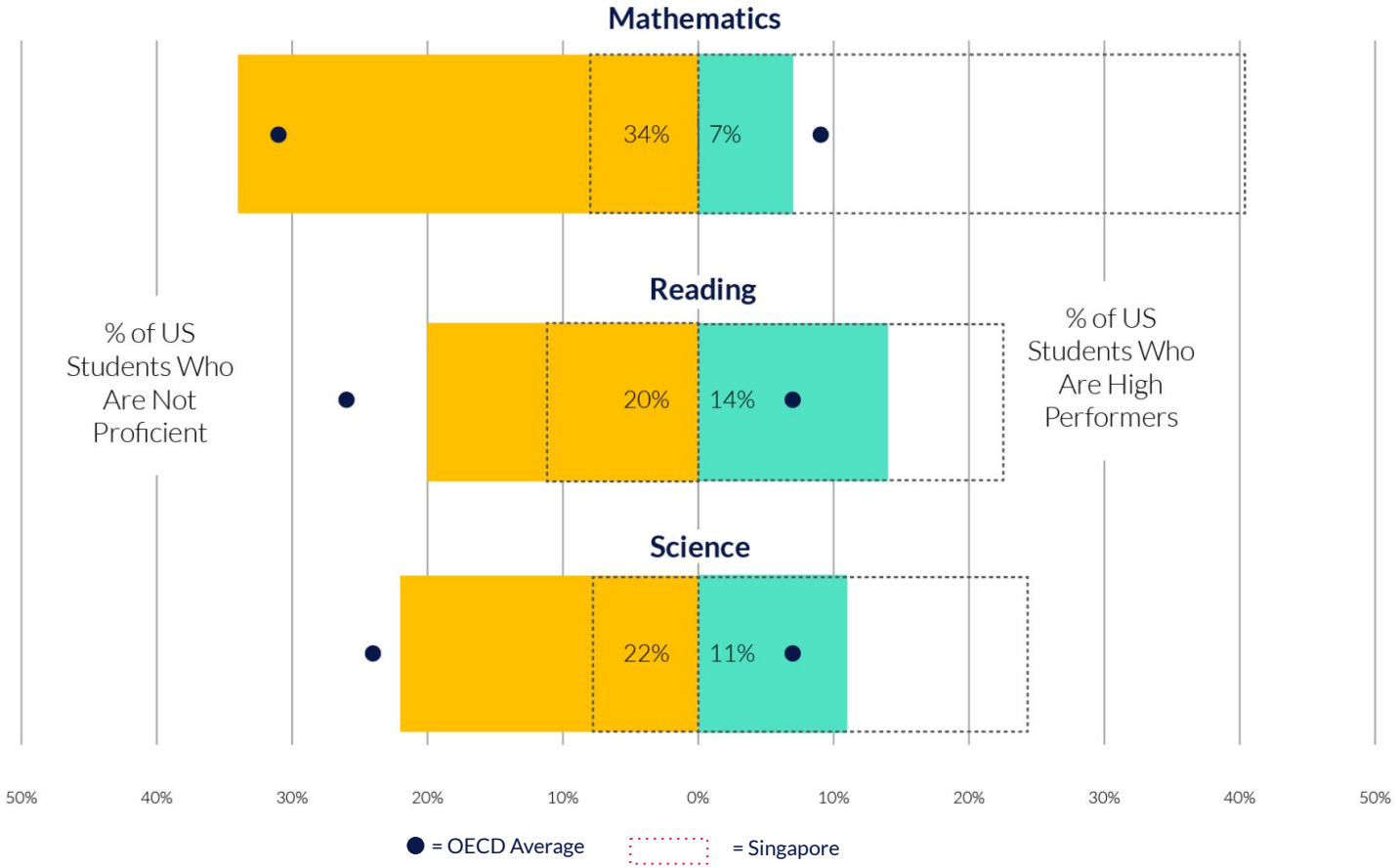
PISA 2022 OECD Overall Trends



PISA 2022 US Trends

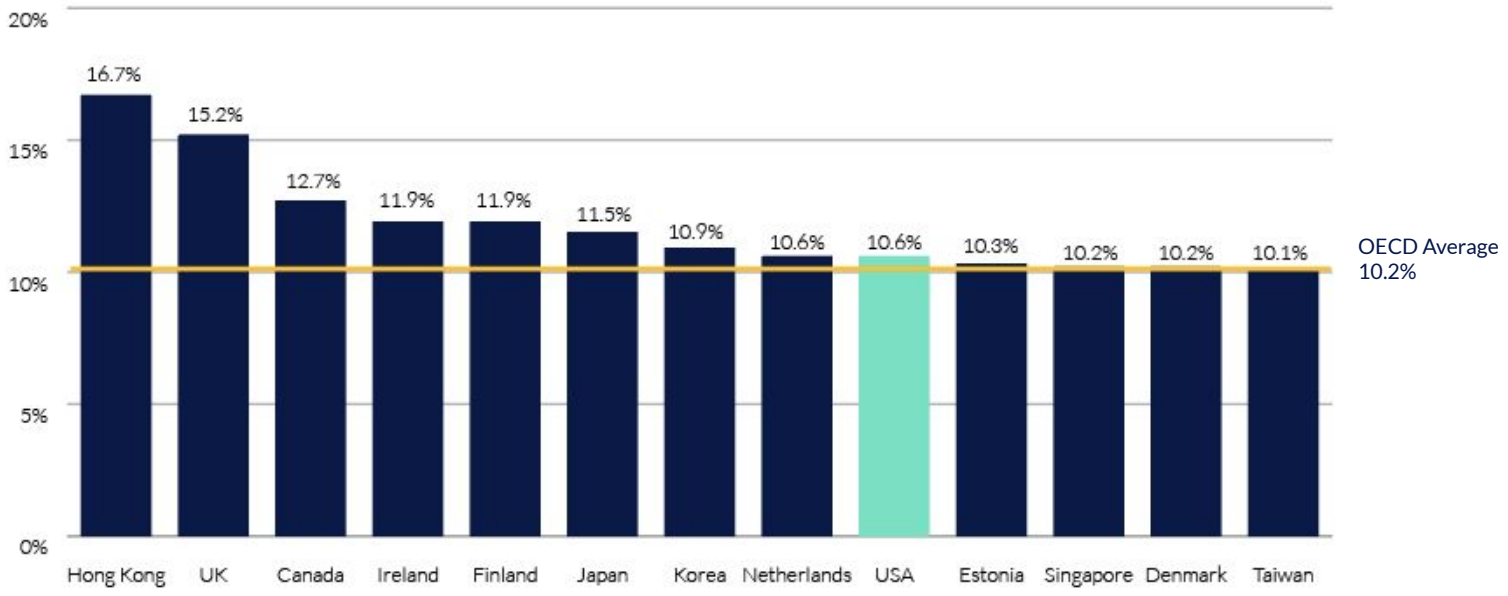


US High and Low Achievers

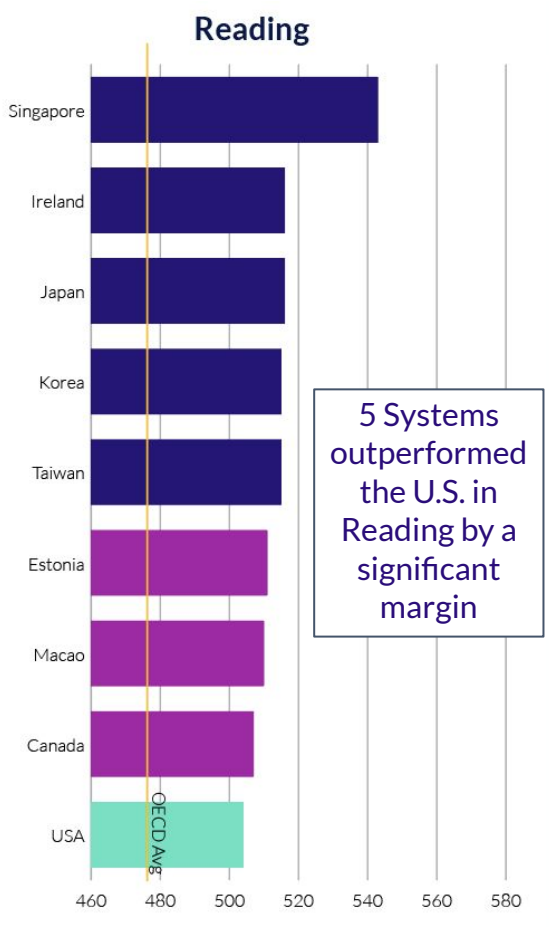


Beating the Odds: Resilient Students

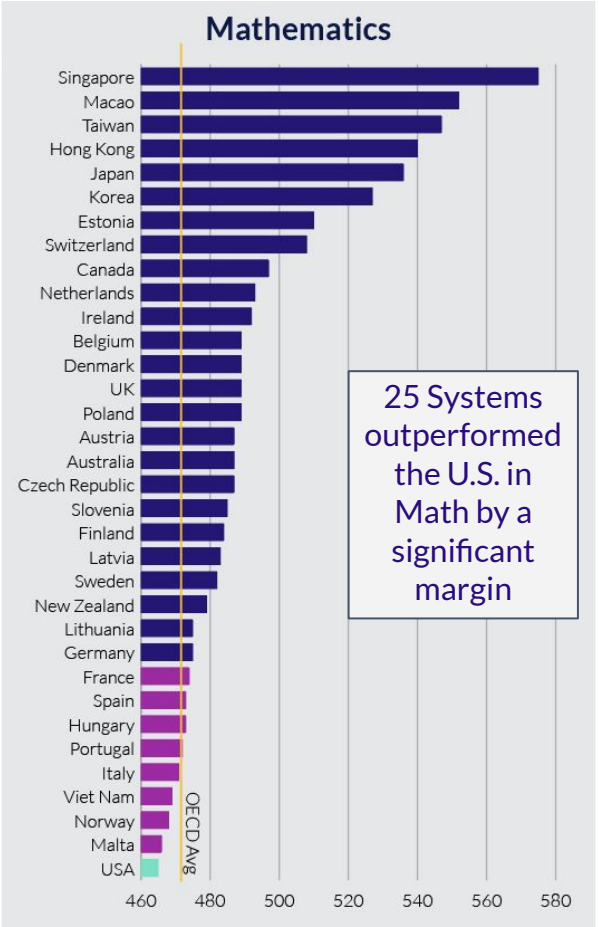
Resilient students are socio-economically disadvantaged students who scored in the top quarter of mathematics performance in their own country/economy.



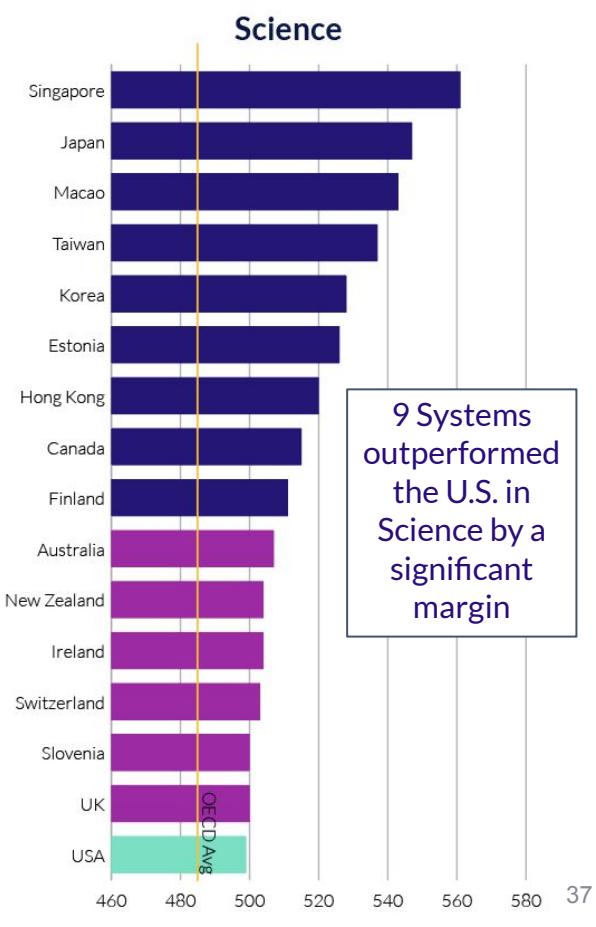
PISA 2022: Ranking the U.S.



5 Systems outperformed the U.S. in Reading by a significant margin



25 Systems outperformed the U.S. in Math by a significant margin



9 Systems outperformed the U.S. in Science by a significant margin

Benchmarking Globally

Who Are PISA Leaders?

What Does This Mean for Students' Skills?

U.S. students have basic skills

80% Can recognize a main idea, cause and effect, and if conclusions are warranted

66% Can compare the distance across two different routes on a road, or convert currency

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But they struggle to apply them.

14% Can distinguish fact from opinion

11% Can apply scientific knowledge to an unfamiliar situation

7% Can model complex situations in math equations and compare and evaluate different ways of solving problems

NCEE's Global Focus

What is common to these high-performing systems?

- Tight connection between **economy and education**, linked to the kind of society they want to create
- **Designed as systems** — parts fit together and reinforce each other
- **Future-focused** – proactive rather than reactive; look around corners

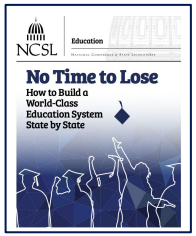
How have other state policymakers interpreted this data?

2014

State legislators got together to learn about high-performing education systems and explore opportunities for improvement in their states.

2016

Put forth a call to action for states to think more systemically and globally about education.



2020-2022

A new cohort of state legislators created a follow up report that:

- reaffirms the original agenda.
- frames the findings within the context of the upheaval caused by the pandemic.
- updates the insights with the latest education innovations.
- renews the call to action with new urgency.

Resulted in state legislatures across the nation designing and implementing new education policies and systems.

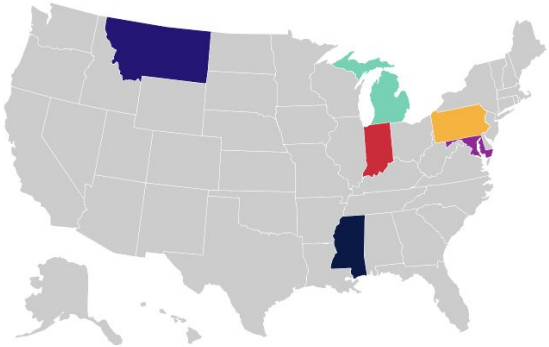
OUTCOMES

Colorado, Hawaii, Indiana, Massachusetts, Montana, New Mexico, and **Vermont** have adopted policy changes based on this work.

Maryland, Mississippi, Nevada, **Michigan,** and **Pennsylvania** are undertaking extensive efforts to reimagine and redesign their state's education & workforce systems.

How Have Other States Responded?

Other states have started down this path. Nevada can learn from a range of approaches…



Maryland
Commission on Innovation and Excellence in Education

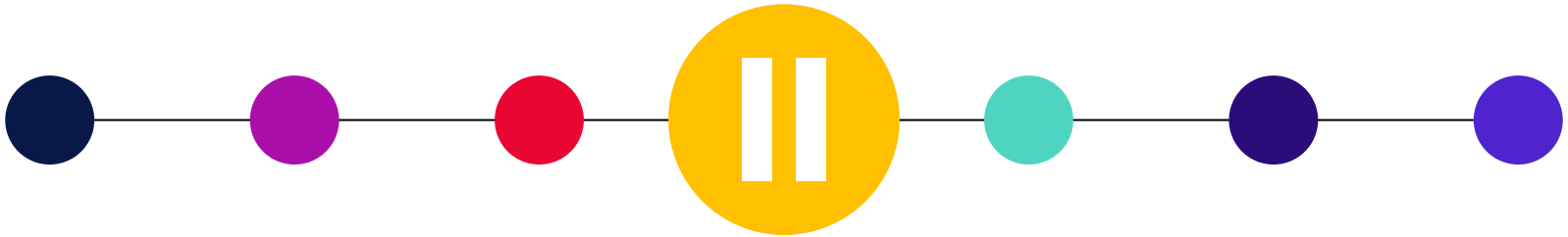
Pennsylvania
2030 Commission on Education & Economic Competitiveness

Michigan
Growing Michigan Together Council

Indianna
Governor's Workforce Cabinet

Montana
Joint Convenings of Constitutional Education Authorities

Mississippi
2022 International Education Study Group

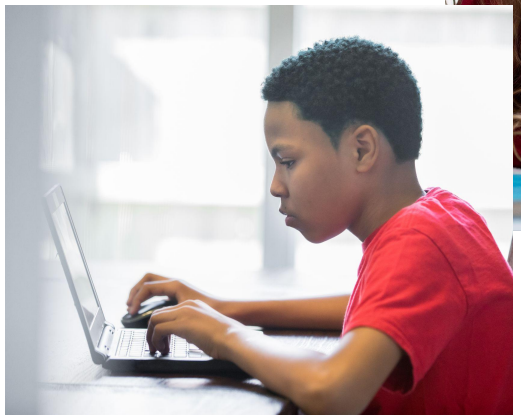


Reflect & Connect

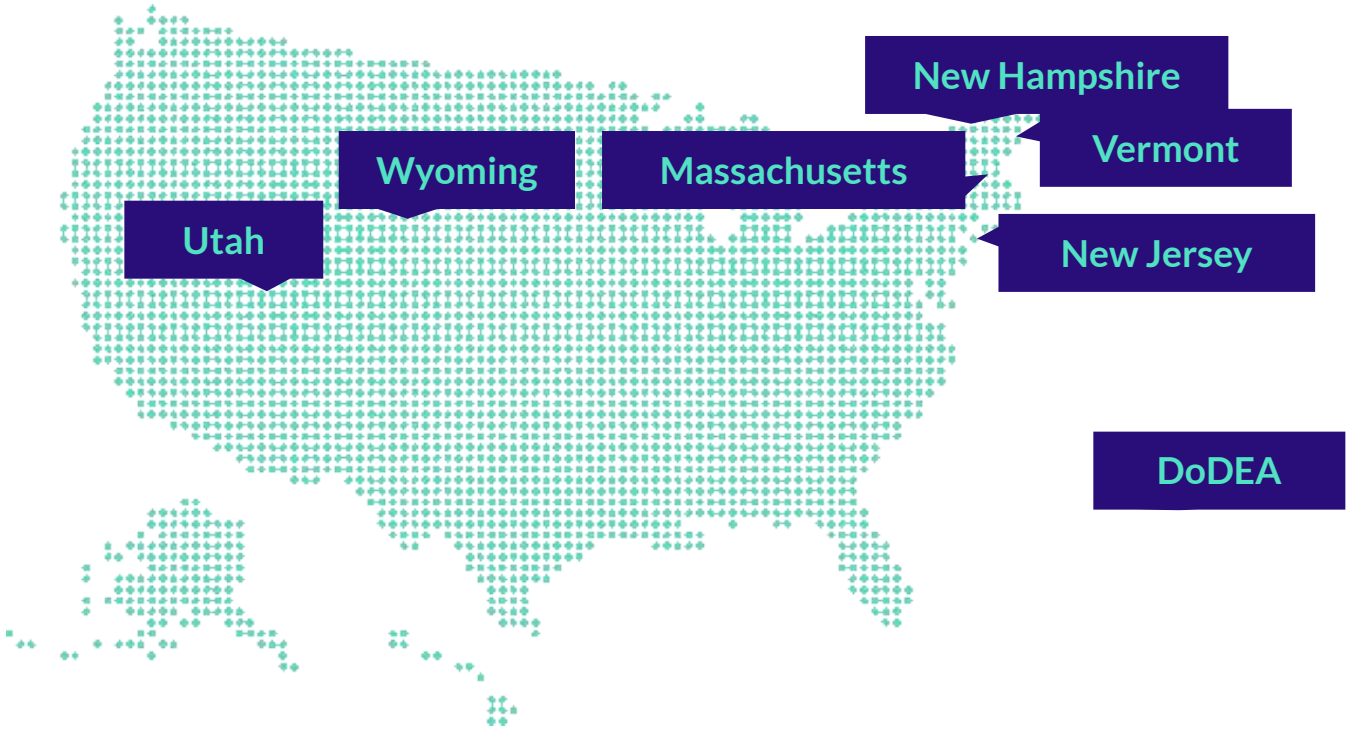
How Does Nevada Compare?

Benchmarking In the U.S. → NAEP

- Assessment of **4th and 8th graders** nationwide and in each state; **12th graders** nationwide
- Subjects: **math and reading** every two years, broader range of subjects less frequently
- Measures how well students have **mastered a consensus curriculum**



High NAEP Performers



NAEP Performance in Nevada

Overall

NV is **about the US average in 8th grade reading**, but slightly below average in math. In **4th grade, NV is slightly below average in math and reading** over the long term.

Double Gap

Black, Hispanic, low income students performed lower across their reading and math scores in 8th and 4th grade in comparison to their White and higher income peers.

Proficiency

Less than ⅓ of students in NV are proficient in Math or reading in 4th or 8th grade.

NAEP Performance in Nevada

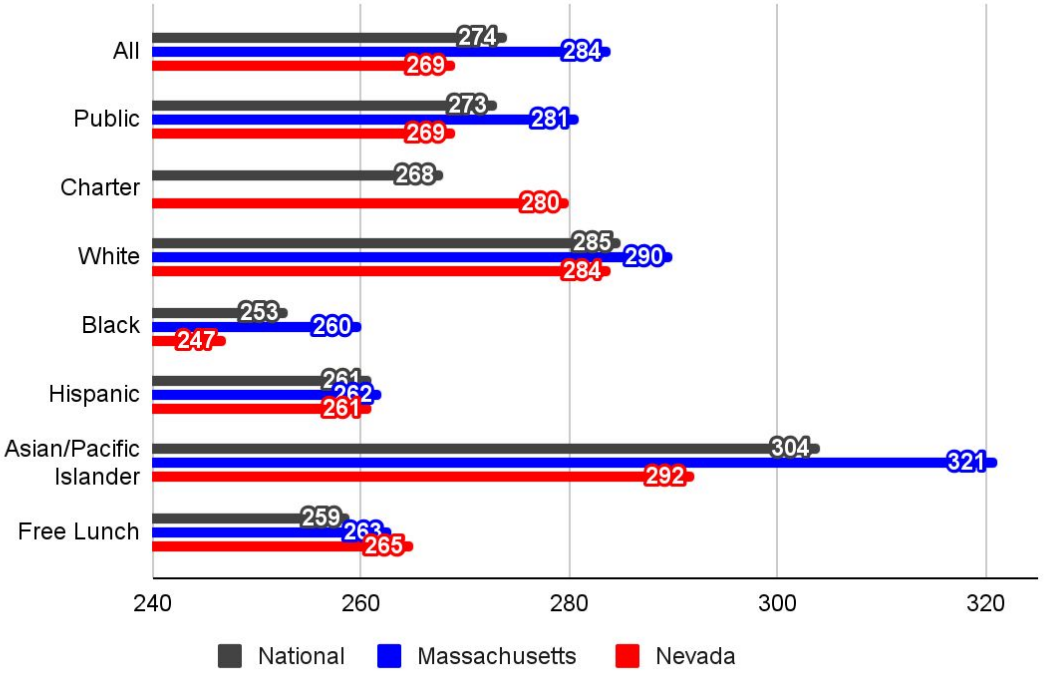
Context

2022:
Average 8th-grade MATH score
Nevada = 269

National Average = **274**

Black students had an average score that was **37 points lower** than that for White students, while Hispanic students were **23 points lower**.

NAEP 2023 **8th Grade Math** Composite Score



*Massachusetts charter school data reporting standards were not met.

NAEP Performance in Nevada

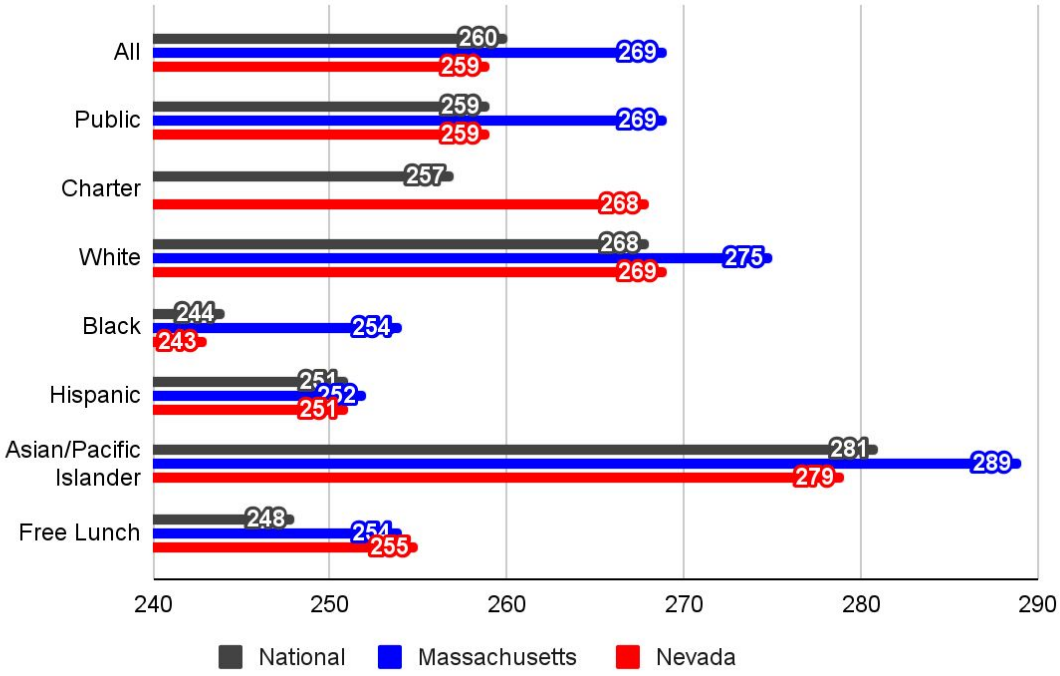
Context

2022:
Average 8th-grade READING score
Nevada = 259

National average = **259**

Black students had an average score that was **26 points lower** than that for White students, while Hispanic students had an average score that was **18 points lower**.

NAEP 2023 **8th Grade Reading** Composite Score



*Massachusetts charter school data reporting standards were not met.

NAEP Performance in Nevada

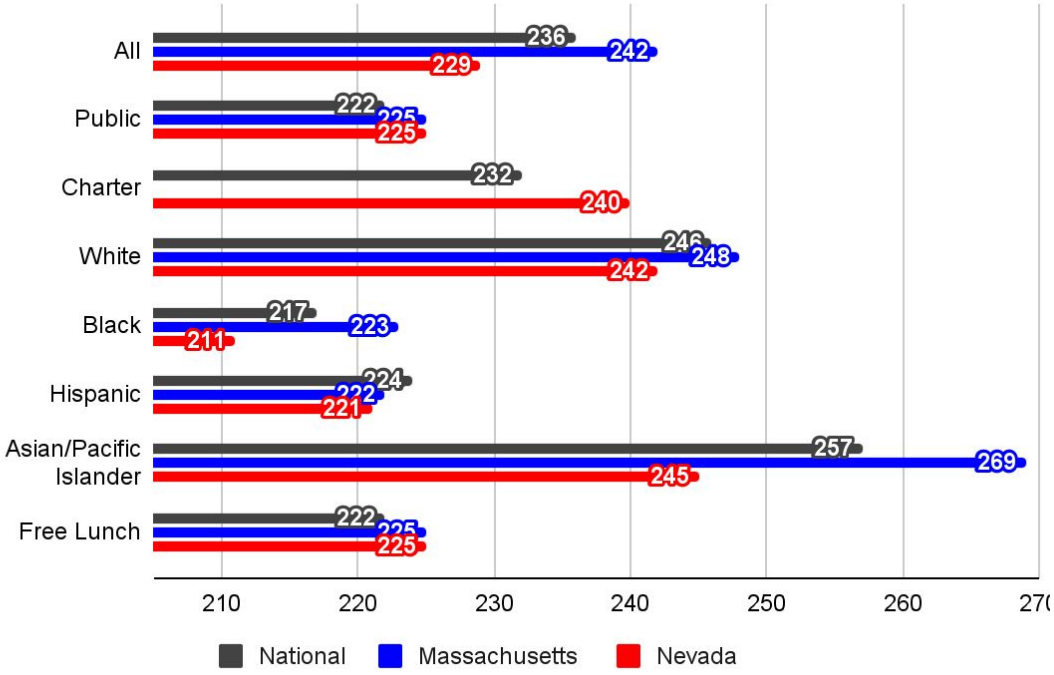
Context

2022:
Average 4th-grade MATH score
Nevada = 229

National average = **235**

Black students had an average score that was **31 points lower** than that for White students, while Hispanic students had an average score that was **21 points lower**.

NAEP 2023 **4th Grade Math** Composite Score



*Massachusetts charter school data reporting standards were not met.

NAEP Performance in Nevada

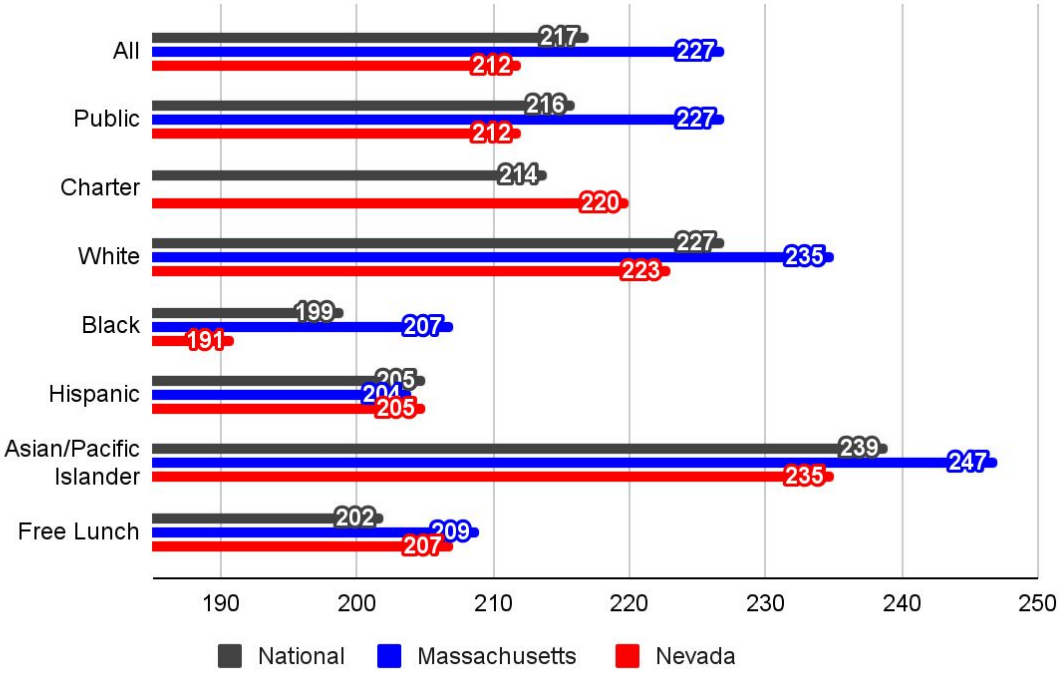
Context

2022:
Average 4th-grade READING
Nevada = 212

National average = **216**

Black students had an average score that was **32 points lower** than that for White students, while Hispanic students had an average score that was **19 points lower**.

NAEP 2023 **4th Grade Reading** Composite Score



*Massachusetts charter school data reporting standards were not met.

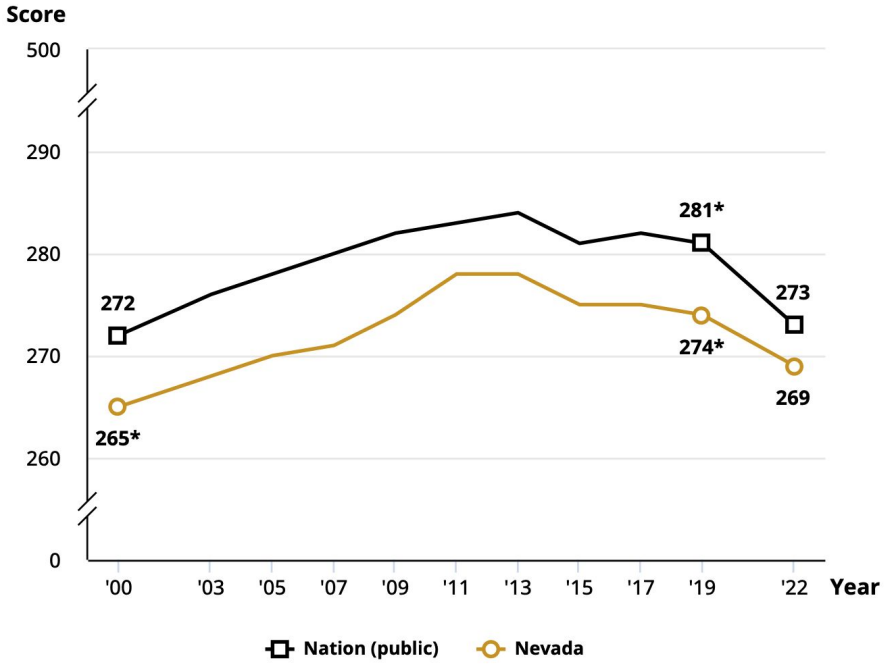
Contextualizing Nevada's NAEP Data

8th Grade Math

In the **51 states/jurisdictions** where scores were lower in 2022 than 2019, the size of the score differences ranged from **4 to 13 points**.

Nevada decrease = 5 points

National average decrease = **8 points**

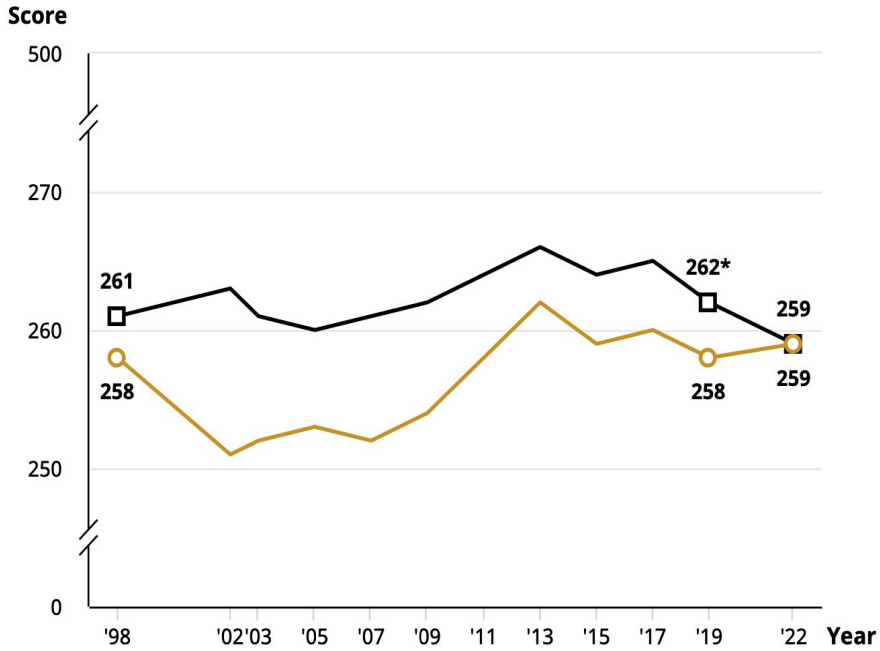


Contextualizing Nevada's NAEP Data

8th Grade Reading

In the **33 states/jurisdictions** where scores were lower in 2022 than 2019, the size of the score differences ranged from **3 to 8 points**.

Nevada INCREASE = 1 point



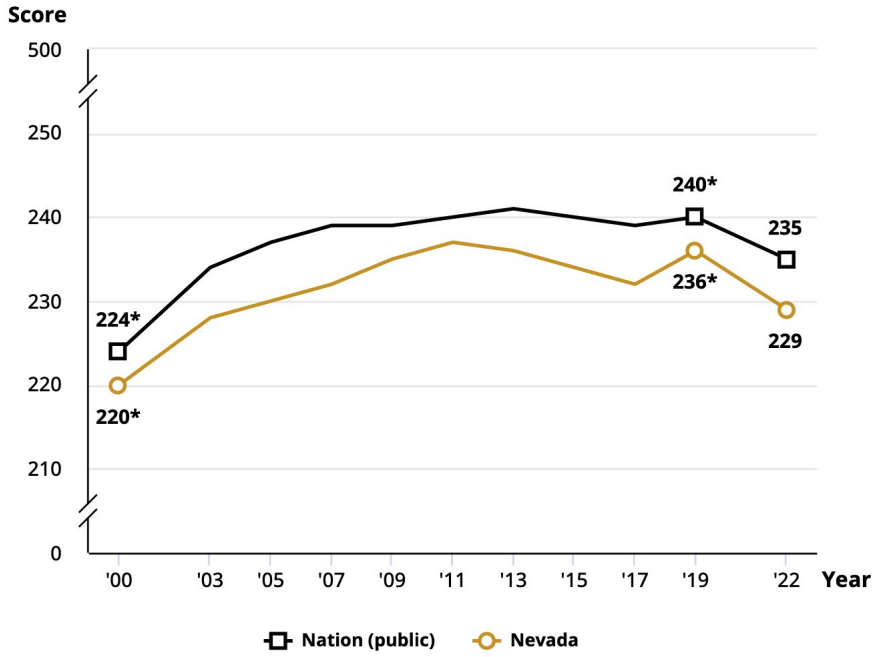
Contextualizing Nevada's NAEP Data

4th Grade Math

In the **43 states/jurisdictions** where 4th grade math scores were lower in 2022 than 2019, the size of the score differences ranged from **2 to 14 points.**

Nevada decrease = 6 points

National average decrease **= 5 points**



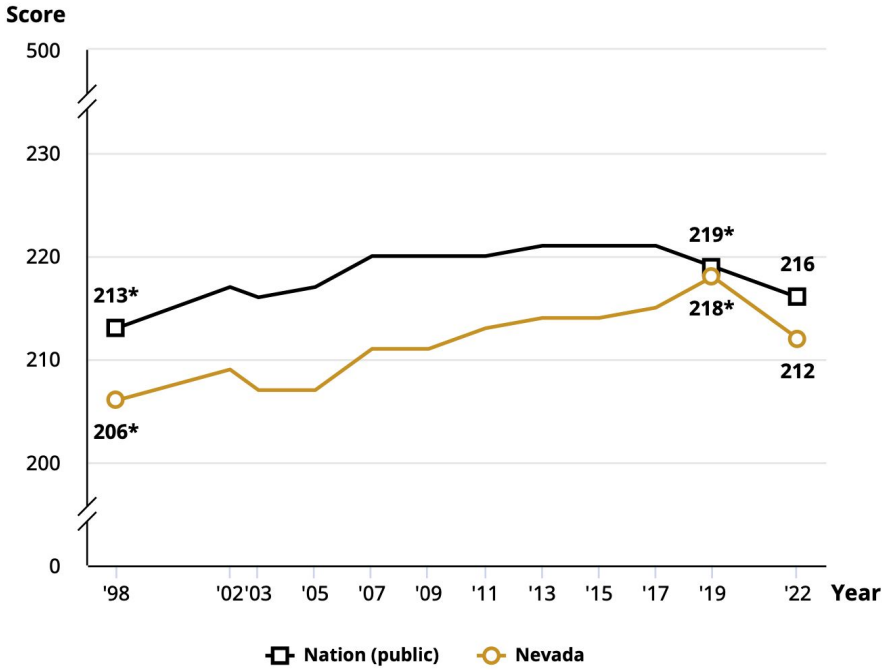
Contextualizing Nevada's NAEP Data

4th Grade Reading

In the **30 states/jurisdictions** where scores were lower in 2022 than 2019, the size of the score changes ranged from **3 to 10 points**.

Nevada decrease = 6 points

National average decrease **= 3 points**



Nevada Economic Data: Top Industries

Context

The Nevada Governor's Office of Economic Development labels the following industries as top industries:

- **Aerospace and defense**
- **Health**
- **Information technology**
- **Manufacturing and logistics**
- **Mining, natural resource technologies**
- **Tourism**
- **Gaming**

Rankings	Revenue
Casino Hotels	$32.3b
Lotteries & Native American Casinos	$17.2b
Hospitals	$10.9b
New Car Dealers	$10.4b
Supermarkets & Grocery Stores	$8.7b
Commercial Banking	$8.3b
Gas Stations with Convenience Stores	$7.8b
Warehouse Clubs & Supercenters	$7.7b
Public Schools	$7.1b
Property, Casualty, and Direct Insurance	$6.4b

Source: IBISWorld

Economic Data: Employment Trends

Context

Nevada employs 1,887,878 people in 2023. It ranks 30th out of all 50 US states. Employment in Nevada has grown at an annualized rate of 3.4% over the five years to 2023, overperforming the national average of 1.2%.

Major sectors by employment in Nevada include Accommodation and Food Services, Transportation and Warehousing and Retail Trade, which employed 459,422, 225,647 and 195,928 people in 2023, respectively.

Nevada's unemployment rate is 5.5% in 2023, which ranks it 50th out of 50 states. Nevada's unemployment rate has trended upwards at a rate of 4.6% over the five years to 2023, underperforming the US economy as a whole.

Top Employers

Companies	Employment	Employment Rate
MGM Resorts International	55,000	2.9%
Clark County School District	35,000	1.9%
Vici Properties	18,500	1.0%
Amazon.Com, Inc.	18,000	1.0%
Walmart	15,246	0.8%

*Statistics are reported from IBISWorld

Economic Data: Comparative Unemployment Rate

Key

2015: 5.02% **(US)** | 6.85% **(NV)**

2016: 4.66% **(US)** | 5.02% **(NV)**

2017: 4.17% **(US)** | 4.98% **(NV)**

2018: 3.78% **(US)** | 4.37% **(NV)**

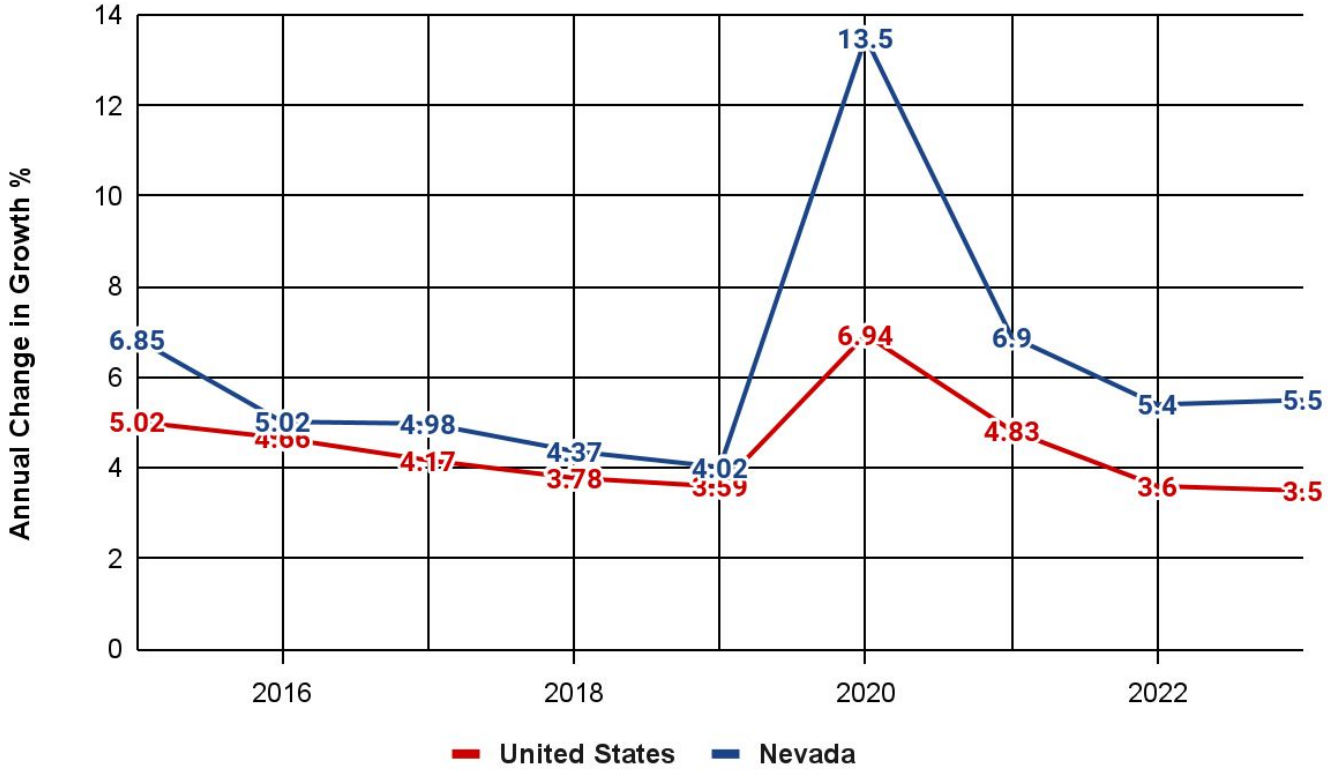
2019: 3.59% **(US)** | 4.02% **(NV)**

2020: 6.94% **(US)** | 13.5% **(NV)**

2021: 4.83% **(US)** | 6.90% **(NV)**

2022: 3.60% **(US)** | 5.40% **(NV)**

2023: 3.50% **(US)** | 5.50% **(NV)**



*Statistics are reported from IBISWorld

What does this data mean for Nevada?

Imagine Systems Where…

To graduate students future-ready, high performing systems have:

Proficiency-based learning system based on future-ready performance standards, with supports for all students

World-class **teaching and learning** to develop confident and engaged self-directed learners

Aligned and coherent governance focused on accountability for system goals and continuous improvement

Proficiency-based learning system based on future-ready standards

Students

- Work towards clear performance standards
- Move on when ready
- Graduate ready for next step

Proficiency-based Learning System

All students can reach standard

Benchmarks along the way

Relentless focus on ensuring all students stay on track to that goal

Provide teachers & students clear info about progress & challenges

External assessment only at key levels.

Aimed at ensuring students are ready for next level

Pedagogically & developmentally appropriate

Targeted at what is most important

With rigorous personalized pathway options in high school

Including early intervention

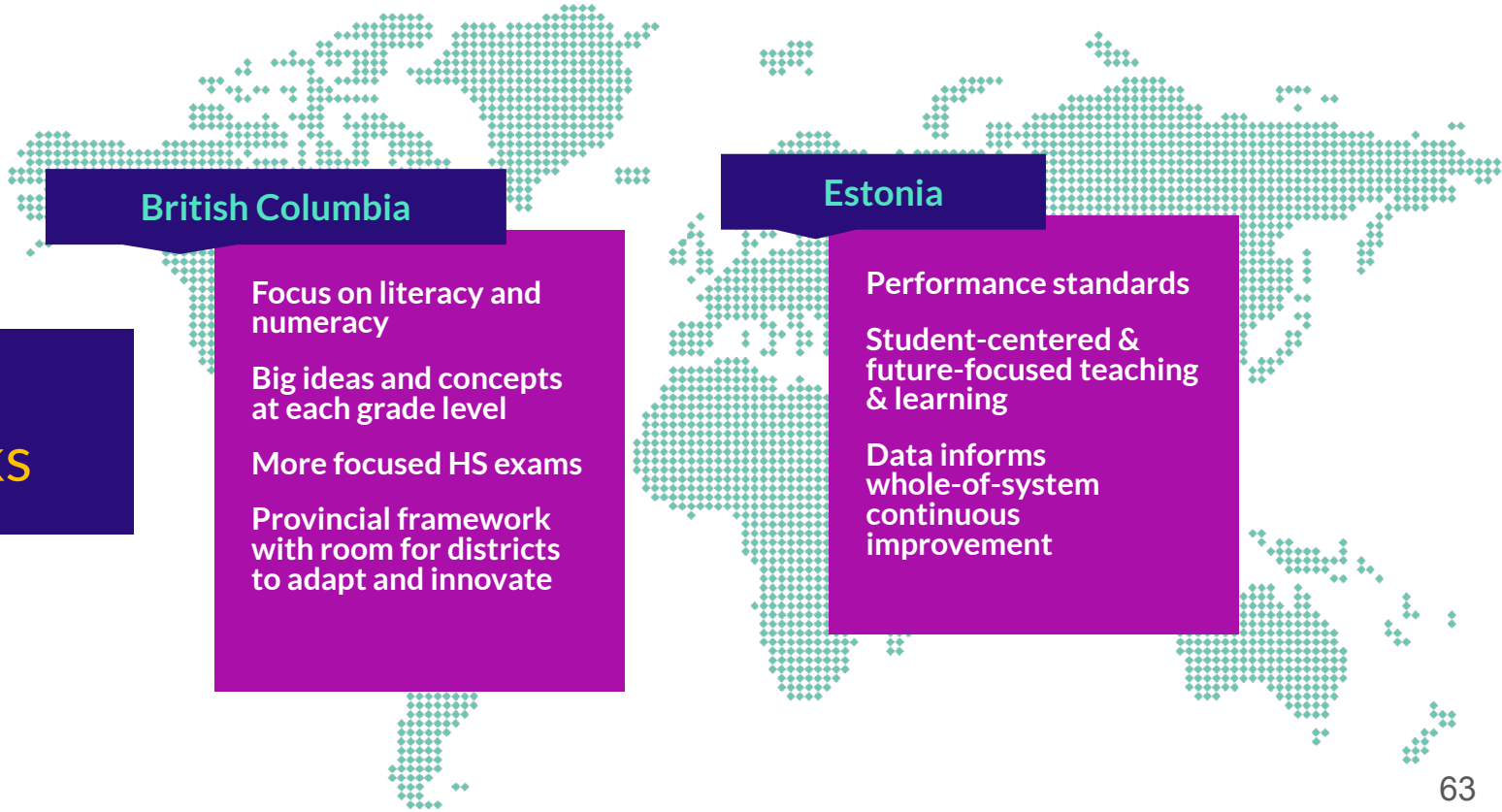
Ensure readiness for learning

Wraparound services & targeted academic support

Students stay on track and thrive

Proficiency-based Learning System

Global Benchmarks



British Columbia

- Focus on literacy and numeracy
- Big ideas and concepts at each grade level
- More focused HS exams
- Provincial framework with room for districts to adapt and innovate

Estonia

- Performance standards
- Student-centered & future-focused teaching & learning
- Data informs whole-of-system continuous improvement

Proficiency-based Learning System

Emerging US Examples

- Aligned curriculum, standards, assessment in LA
- Grand Canyon Diploma in AZ
- Graduate profile in Madera, CA
- Portfolio assessment in NH
- Empirically-based college and career ready standard in MD
- Defined career pathways in IN

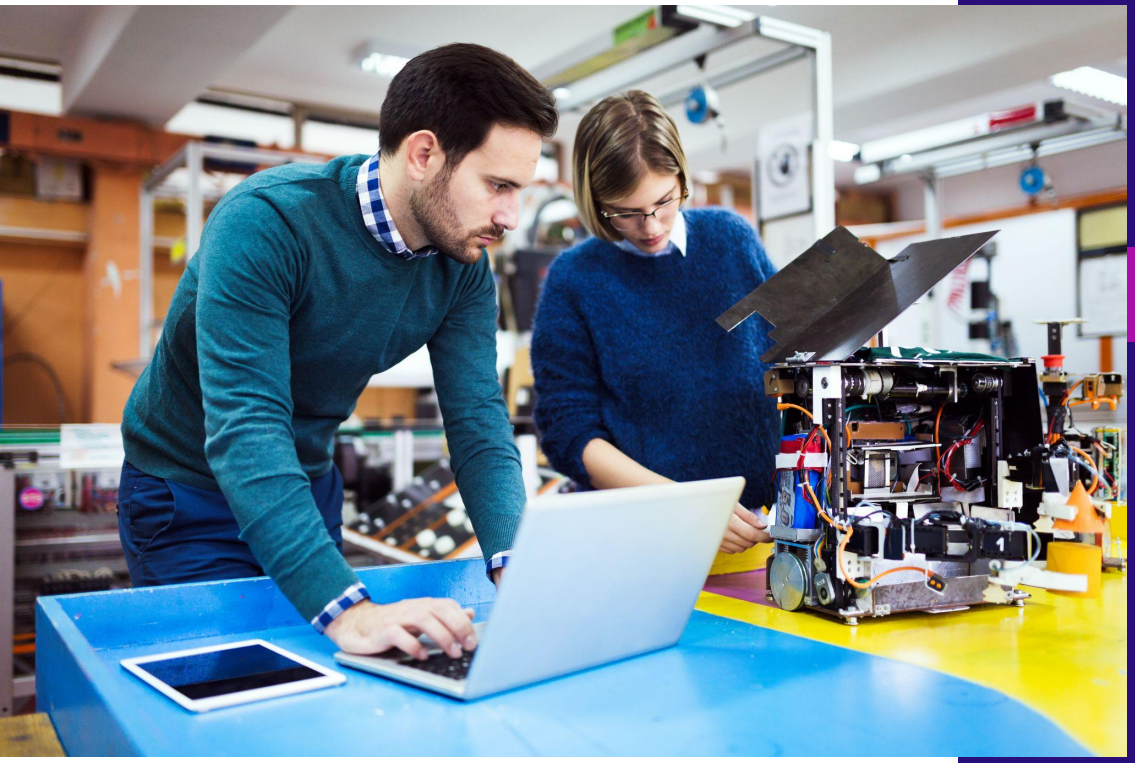
Proficiency-based Learning System

Building lifelong learning systems, aligned from preschool to upskilling for adults, with access for all.

Singapore: Skills Future

Finland: Lifelong Learning

Future Focus



Teaching & Learning to Enable Students to Achieve World-class Standards

Teachers

- Work together to improve their practice & develop expertise.
- Focus on improving student learning across schools & districts.
- Create learning environments that develop engaged, self-directed, future-ready learners.

World-class Teaching & Learning

Rigorous teacher preparation

Deep content knowledge

Ongoing professional learning

Pedagogical expertise

Focus on practice

Mentorship from expert teachers

A continuum of leadership roles

Incentives to support & reward development of expertise

Aligned leadership development & professional learning

Schools organized for teacher collaboration

Central goal of improving student learning with students at the center

Well-trained school leaders

Create and lead schools where:

learning is engaging, personalized, & self-directed

students have a variety of experiences outside the classroom

students prepare for the world in which they will live

World-class Teaching & Learning

Global Benchmarks

- Rigorous teacher preparation
- Teacher career ladder
- Leadership development system
- Innovative learning approaches

Singapore

World-class Teaching & Learning

Emerging US Examples

Teacher career ladder in MD and McComb, MS

Cooperative Innovative High Schools in NC

MadTECH Career exploration in Madera, CA

World-class Teaching & Learning

How to enhance teaching and teacher roles with new technologies

Estonia: New platforms for designing lessons

Singapore: Digital grading of writing with immediate feedback to students

South Korea: Learning assistants for students to keep students motivated and on task

Future Focus

Coherent & Aligned Governance Focused on Continuous Improvement

Feature:

- Coherent & aligned roles and responsibilities.
- Equitable financing of schools focused policies and practices that work.
- Accountability for results and continuous improvement of the system.

Coherent & Aligned Governance

Provides all students with the resources and opportunities to succeed

Tied to effective policies and practices for improving student learning

For leaders throughout the system

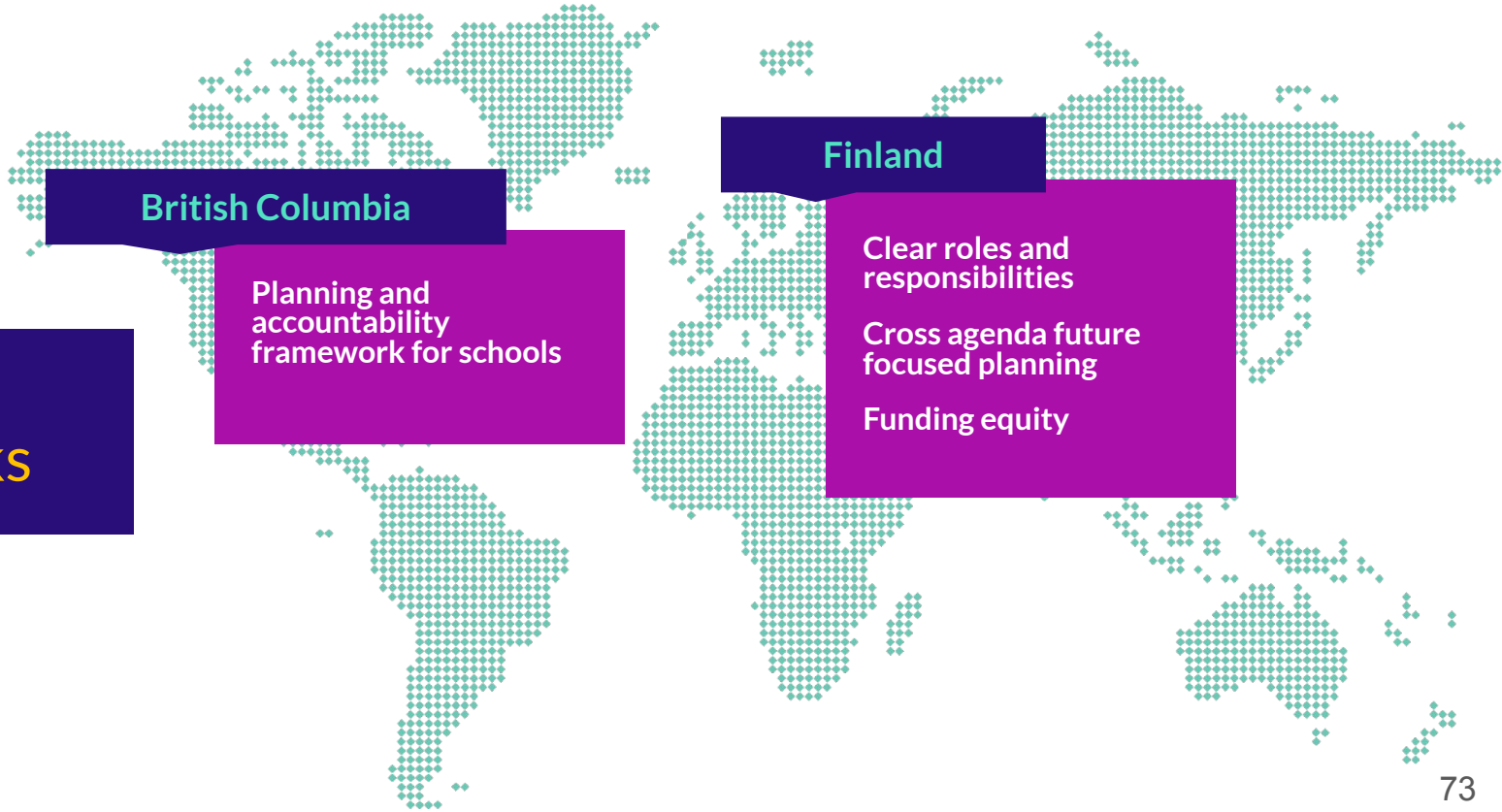
Long term strategic vision

Deep system capacity to support schools

Incentives & supports to reach system goals & to innovate to continue to improve

Coherent & Aligned Governance

Global Benchmarks



British Columbia

Planning and accountability framework for schools

Finland

Clear roles and responsibilities

Cross agenda future focused planning

Funding equity

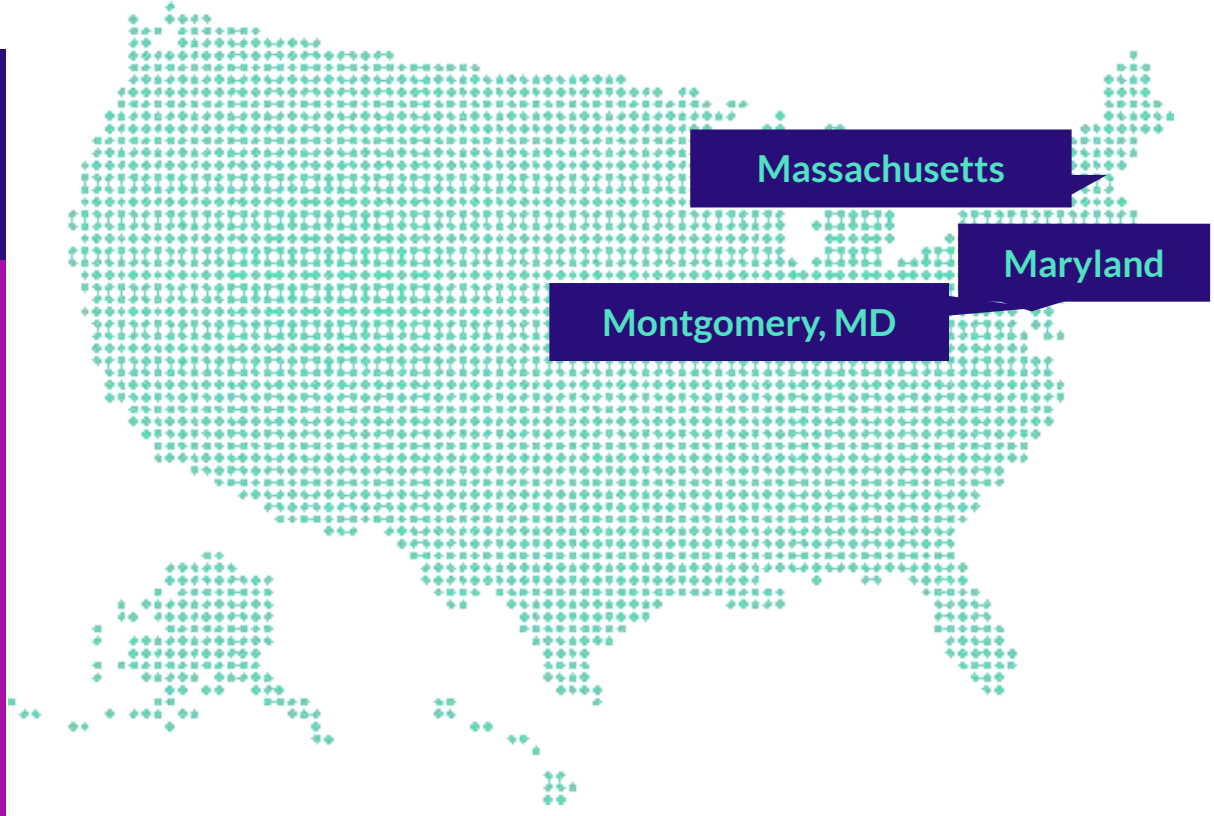
Coherent & Aligned Governance

Emerging US Examples

Coordinated governance of P-12 learning in MA

Education funding tied to policy goals in MD

Peer assisted teacher support in Montgomery County, MD



Coherent & Aligned Governance

Rethinking accountability systems to look at broader measures and to focus on future readiness

Vicksburg, MS:
Community-wide accountability

Singapore:
Assessment of co-curricular and out of school learning

Estonia:
Requiring collaborative cross disciplinary project for graduation

Future Focus

Promising Practices in Nevada

Nevada has many strong schools and promising innovations, such as the recent work to design a future-facing learner profile.

- Modernized funding formula
- Forward-thinking work to modernize and innovate in CTE & career connected learning (state-wide & Lincoln County)
- Strengthened support for professional learning & early literacy
- School leaders actively engaged in professional learning around strong education systems redesign (Clark County & elsewhere)
- New Portrait of a Learner and Future of Learning Network

Redesigning Nevada's System

Nevada's education systems designed for a **different era and a different economy.**

Many high-performing systems were designed **much more recently.**

High performing systems are **continuing to pivot and adapt** to emerging challenges.

Next meetings will **analyze Nevada's system across a range of metrics** to develop policy recommendations.

If We Were to Redesign NV's System, How Would We Know We Are Successful?

Traditional program evaluation approaches work well when the system tends toward stability, change tends to have a predictable pattern and parts of the system need improvement rather than fundamental change.

Redesign work necessitates using **system evaluation** approaches that consider multiple aspects of the complex system and support learning throughout the process of redesign.

PROGRAM Evaluation	SYSTEMS Evaluation
Unit of analysis: an individual program/ policy. Complexity in context is controlled statistically.	**Unit of analysis**: the system. This approach is grounded in seeing and understanding both the system parts and the relationships among the parts rather than the parts in isolation. Complexity in context is studied.
Goal: to understand the value of a specific intervention. The key question is whether the intervention "worked".	**Goal**: to understand the value of programs/ interventions not on their own merits but in how the collection of changes impacts the system.
Purpose: to measure intended effects and to determine if there is credible evidence of a causal relationship between a specific intervention and outcome(s) beyond the influences of other factors.	**Purpose**: to understand how the system is changing and to support adaptation in a dynamic environment. There is more emphasis on accountability for learning and less focus on counting outputs.
Cause and effect: linear. Root causes are typically understood. The intervention is the "cause" acting on its own. Effect is measured as resulting change.	**Cause and effect**: not linear or monocausal. It is more complex, has more parts, more actors, more interactions. There are multiple interdependent causes.

Systems Evaluation

Nevada Education Policy

2011

Assembly Bill 222

Established the Teachers and Leaders Council and the development of the Nevada Educator Performance Framework.

2015

Every Student Succeeds Act

ESSA adjusts Nevada's teachers and schools accountability system, the Nevada School Performance Framework to adapt to new federal guidelines.

2022

Nevada Future of Learning Network

In September 2022, stakeholders in Nevada planned a process to develop an action plan based on the state's opportunity analysis to grow personalized, competency-based learning in the state.

2023

Nevada Portrait of a Learner

From October 2022 to May 2023 Nevadans gathered to envision the future of learning and identify portrait mindsets and skills to develop the NV Portrait of a Learner.

2023

NV K-12 Education Budget

On June 1, Gov. Lombardo signed the largest education budget in Nevada's state history, with the state allocating an additional $2.6 billion to its K-12 education system.

2023

Other Assembly and Senate bills

In June 2022, several bills were passed. AB 400 and SB 98 require an analysis of results on the investment into NV's education system, while SB 72 and AB 285 list requirements for school safety measures.

2023

Commission on Innovation and Excellence in Education

On June 15th, SB425 was signed into law. The bill established the commission to develop a statewide vision and implementation plan to improve the public education system in NV.

Where Do We Go From Here?

Commission Sessions

Tuesday

April 23, 2024

10:00am-4:00pm

In Person

Tuesday

June 4, 2024

1:00-5:00pm

Virtual

Tuesday

September 17, 2024

10:00am-4:00pm

In Person

Tuesday

December 10, 2024

1:00-5:00pm

Virtual