Indiana's Education System in a Changing Global Context

Jason Dougal, President
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February 2024

NCEE

Who is NCEE?

Non-profit
based in D.C.

At the intersection of
education & economy

35+ years connecting **global research** with national, state, & district **policy & practice**

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.

Our Time Together

A Look Ahead

At global trends on the horizon that students will face in school, work, and life, and the urgency they create to redesign our current system.

A Look Around

At what Indiana can learn from global and U.S. state efforts to build stronger, more future-facing and resilient education systems.

A Look Inward

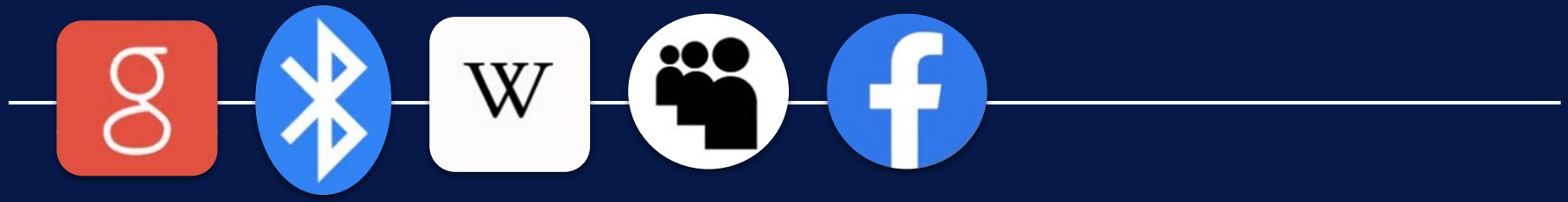
At the strengths and opportunities for growth in Indiana's current system as we continue on this journey.

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

The world has changed for our students:

Post-secondary

Born between 2000–2004

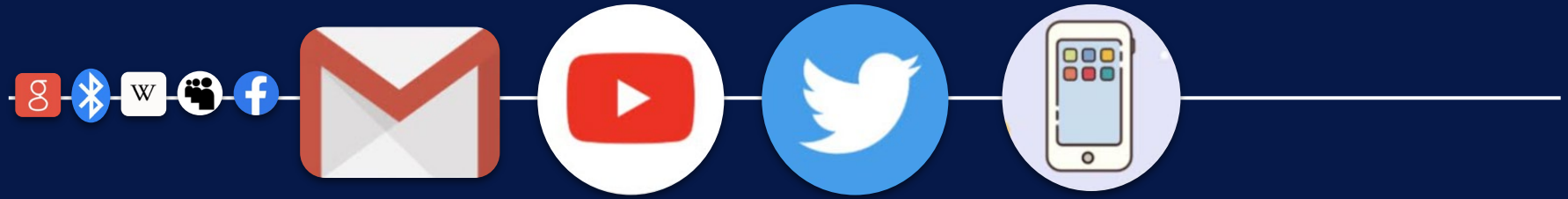


2000

Source: Dr. Sabba Quidwai, Designing Schools

The world has changed for our students:

High School
Born between 2004–2008

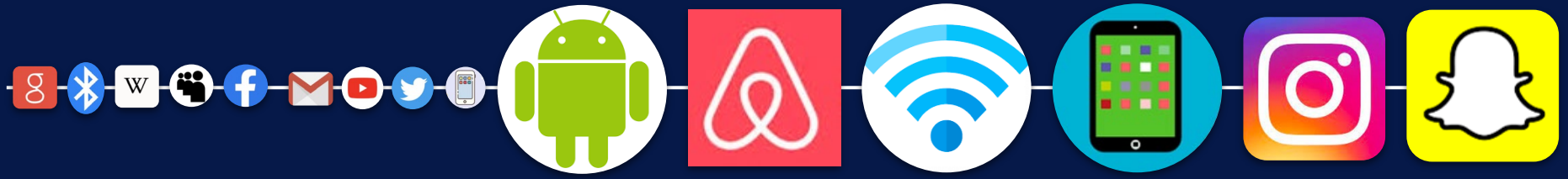


Post-secondary
Born 2000–2004

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

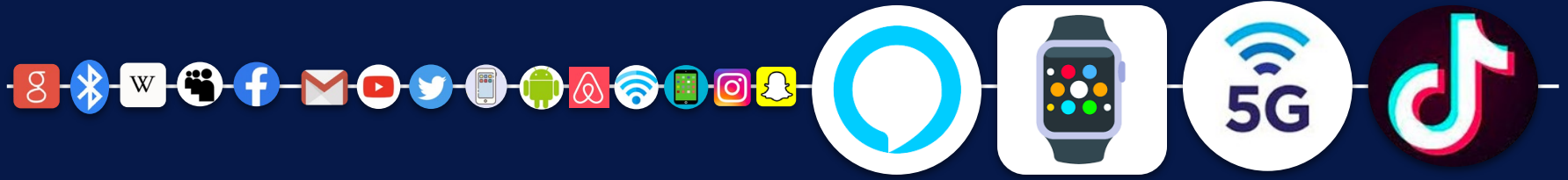
2000

2005

2010

Source: Dr. Sabba Quidwai, Designing Schools

The world has changed for our students:



Post-secondary
Born 2000–2004

High School
Born 2004–2008

Middle School
Born 2008–2019

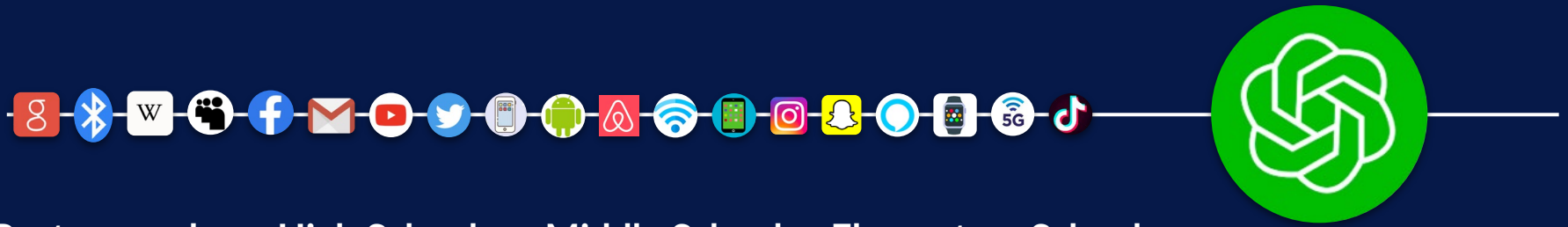
Elementary School
Born 2011–2017

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

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. Multilingualism
19. Teaching and mentoring
20. Programming
21. Marketing and media
22. Networks and cybersecurity
23. Environmental stewardship
24. Manual dexterity, endurance & 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

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

NCEE's Global Focus

Why look globally?

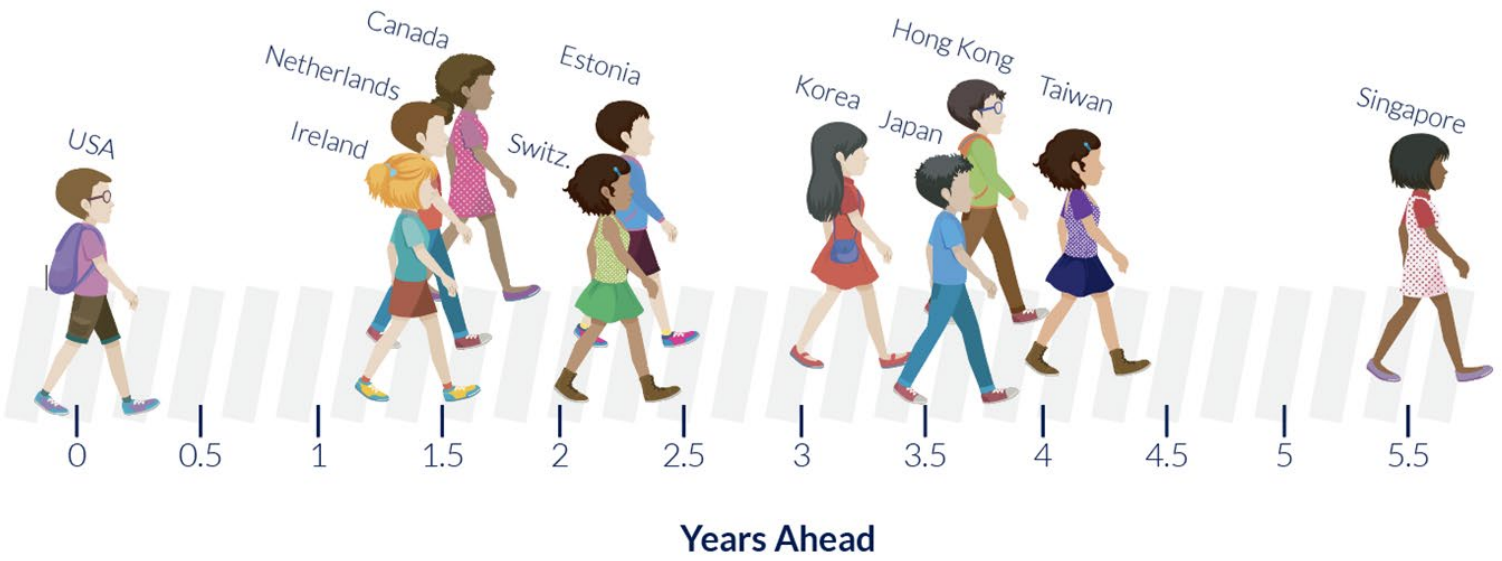
- As the world globalizes, **we compete with the world**, not just our neighbors.
- We face **common challenges** across the globe — climate, political division, advancing technology.
- Global leaders inform us about how they **adapt to a changing future.**
- We can **translate insights** from leading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

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 U.S. based on difference in mean scores.

PISA: What Can Students Do?

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.

…but, they struggle to apply them.

14% Can distinguish fact from opinion.

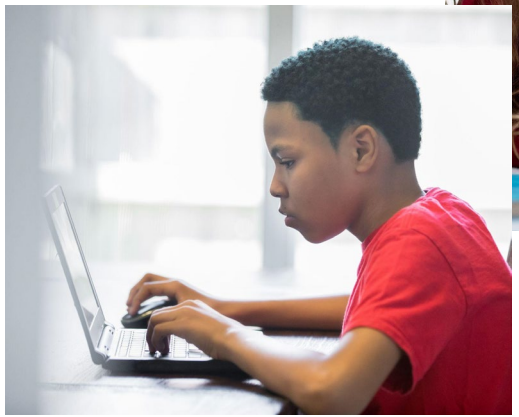
11% Can apply scientific knowledge to an unfamiliar situation.

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

How Does Indiana 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**



NAEP Performance in Indiana

Overall

Indiana ranks slightly **above average in math** and **average in reading** among states on NAEP.

4th and 8th grade **scores are significantly lower than 2019**, following the national trends post-pandemic.

Gaps

Persistent **gaps in achievement** between students with different socio-economic status and among students of different races / ethnicities.

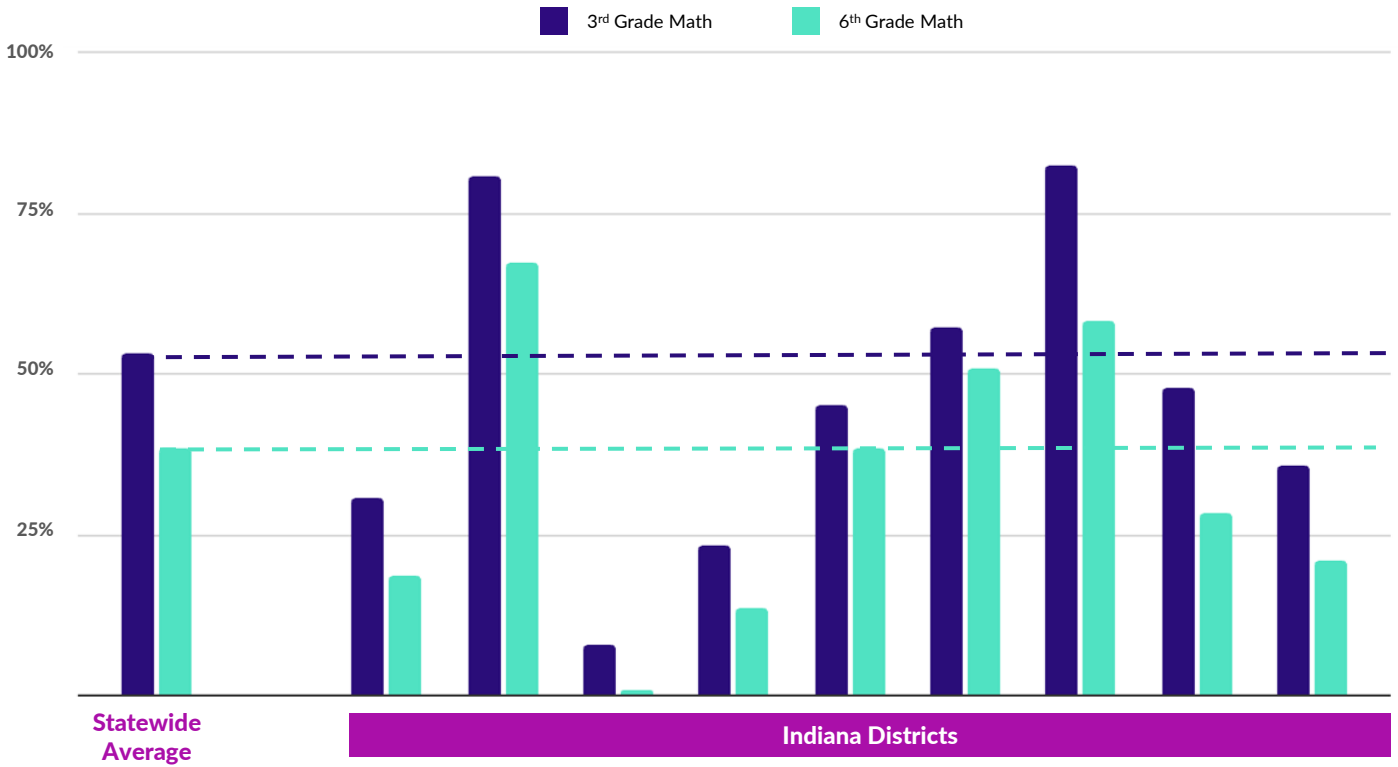
Proficiency

About **⅓ of students** in 4th and 8th grade are proficient in reading.

40% of 4th grade students and **30%** of 8th grade students are **proficient in math.**

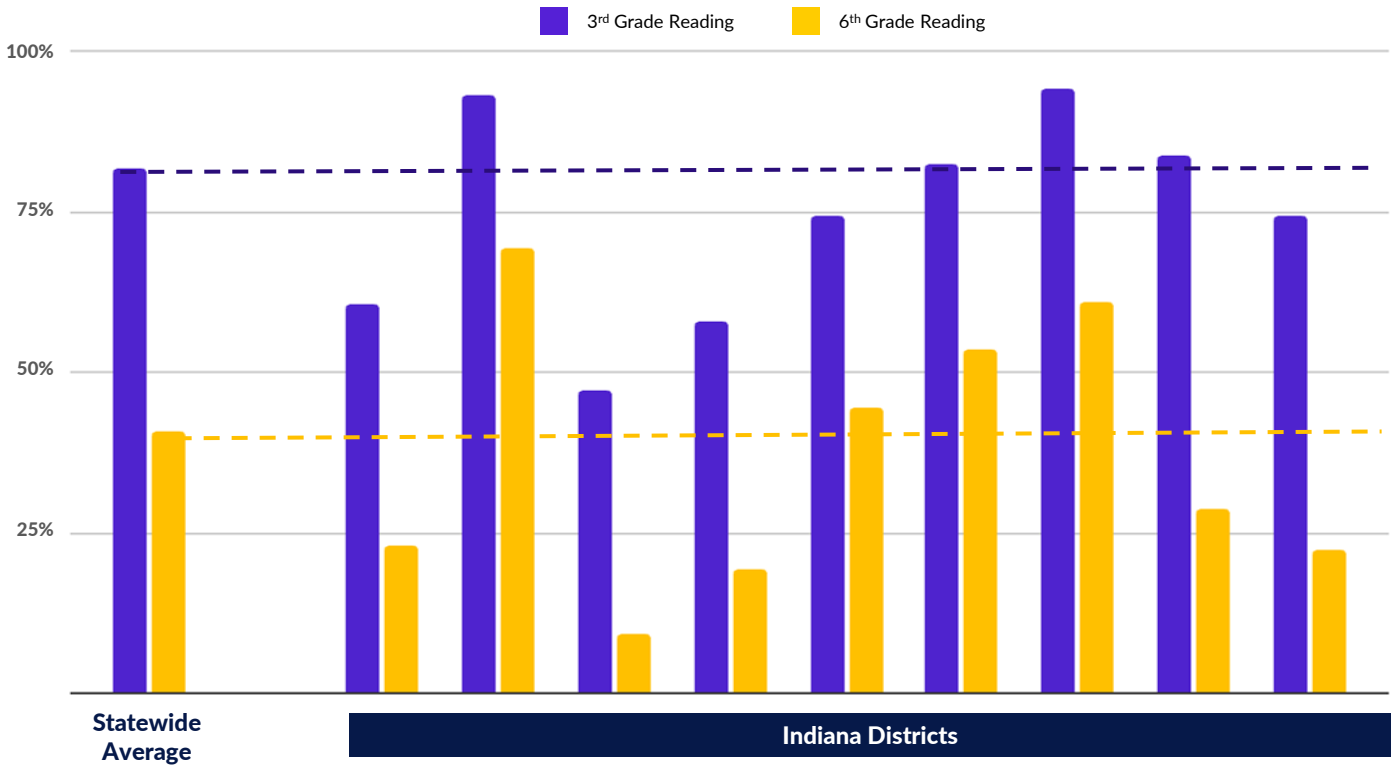
District-Level Performance

Percentage of students **proficient in math** across Indiana districts



District-Level Performance

Percentage of students **proficient in reading and English** across Indiana districts



College & Career Readiness

6% of IN students **earn a college or career credential** before graduation (state target: 60% by 2030)

22% of IN high school students enroll in a **CTE course**, but less than 5% complete a CTE program

53% of recent IN high school grads **enroll in postsecondary**, compared to 61% nationally

~60% of IN high school students get **dual enrollment** credit, compared to about 30% of students nationally

Imagine Systems Where…

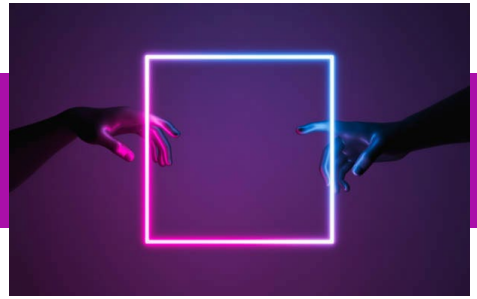
To graduate students future-ready, high performing systems have:

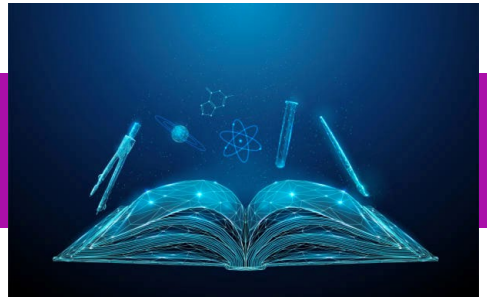
Proficiency-based learning system based on future-ready performance standards, with supports for all students

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

Looking Ahead: What Top-Performers Are Asking





How to **harness emerging technologies** to create new learning environments and more equitable opportunities for students

How to make learning more **personalized, interactive, and competency-based**

How to support students more **holistically**

How to build skills and competencies for a **changing workplace**

How **teacher roles need to shift** in a digital world and as learning becomes more personalized

Assets to Build On in Indiana

Key recent progress aligned with global trends:

- Aligning curriculum materials, new assessments, and teacher prep programs with the science of reading.
- Expanding work-based learning in high schools and growing youth apprenticeships.
- Creating pilots to begin to explore the potential impacts of AI on teaching and learning.
- Creating Educator Scholarships to encourage more students to pursue a teaching career.
- Work to transform schools into hubs of community supports to help all students enter school with the resources they need to thrive (e.g., Communities in Schools, City Connects).

Thoughts on Potential Work Ahead

Continue to prepare for the impact generative AI and other emerging technologies will have on education and employment by **rethinking what's taught, how it's taught, and how it is assessed.**

Use frameworks for **work-based learning to ensure consistent, high-quality standards statewide** to create a robust continuum of career-connected learning experiences.

Build on promising teacher recruitment efforts to date by **reimagining the professional work environment in schools.**

Thank you.