

Transforming the System:

*The Urgent Need to Unify
Research, Practice, and Policy
to Reinvent Education*

Linda Darling-Hammond,
Learning Policy Institute



The System We Inherited

“One cannot understand the history of education in the US during the 20th century unless one realizes that E.L. Thorndyke won, and John Dewey lost.”

-- Ellen Condliffe Lagemann, *An Elusive Science: The Troubling History of Education Research*

Schools Designed in the Early 1900s Adopted the Factory Model

- Large schools were designed to pass students along an efficient assembly line
- Scientific managers adopted the Prussian “age-grading” system and the “platoon” system to create efficient processing of students
- Teachers were placed as individual workers on the assembly line to plan & teach alone
- Curriculum was prescribed based on time and motion studies and focused on rote learning
- Tracking was designed to create different conveyer belts for students by race & class
- Schools were explicitly designed to “select and sort” rather than to develop talent



(Tyack, *The One Best System*; Callahan, *The Cult of Efficiency*)

Schools' Testing and Tracking Systems Were Designed for Selecting and Sorting by Race and Class

Ellwood P. Cubberley, Stanford University Education School Dean, 1909

“[New immigrants are] a very different type from the north Europeans who preceded them. Illiterate, docile, lacking in self-reliance and initiative, and not possessing the Anglo-Teutonic conceptions of law, order, and government Our city schools will soon be forced to give up the exceedingly democratic idea that all are equal . . . and to begin a specialization of educational effort.”

W.B. Pillsbury, U. of Michigan Professor of Psychology, 1921

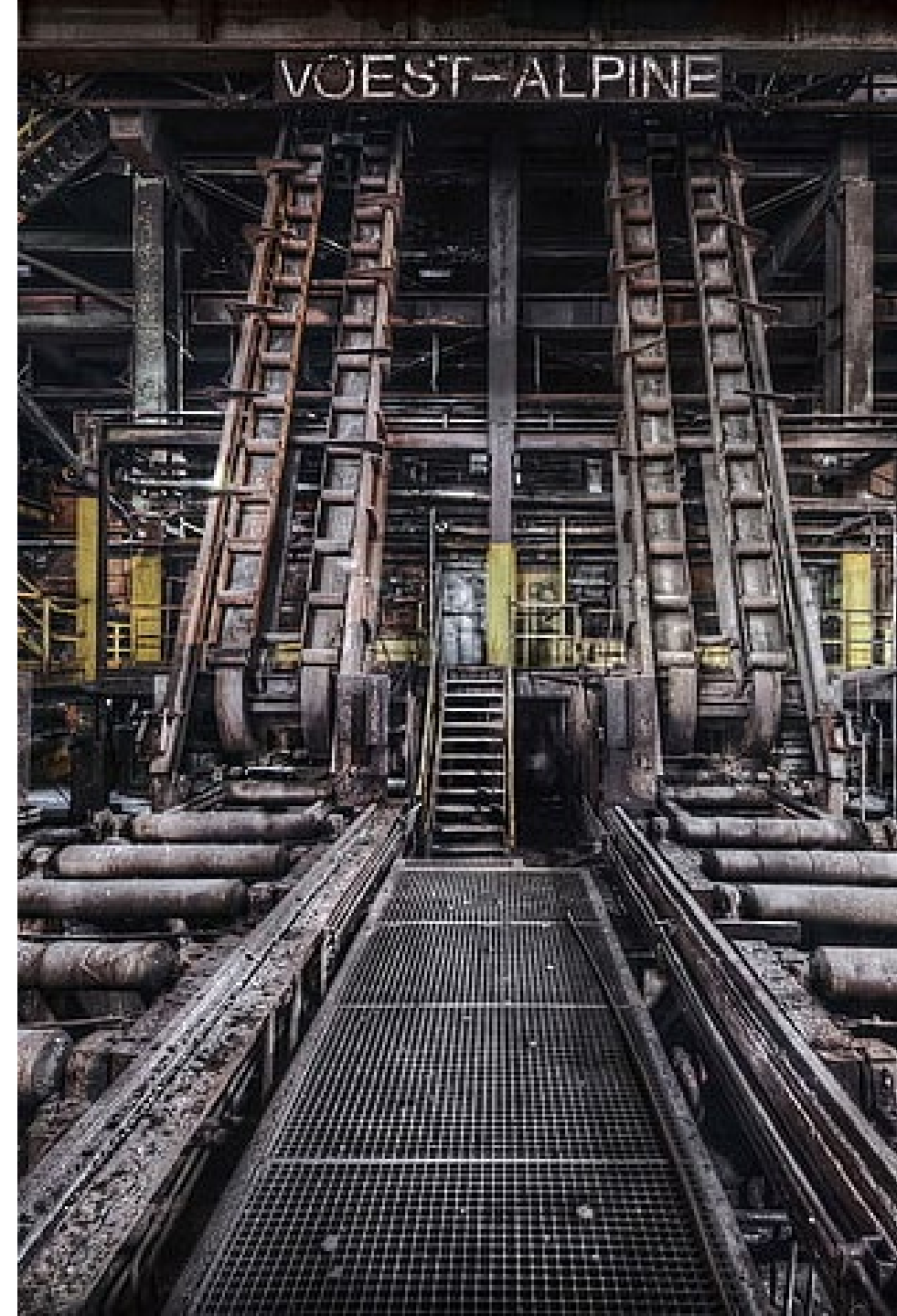
Schools should take on the role of “selecting the men of best intelligence from the deficient and mediocre.... The incapable are soon rejected or drop out. . . and pass into the ranks of unskilled labor, [while] the more intelligent who are to be clerical workers pass into the high school.... Only the most intelligent enter the universities whence they are selected for the professions.”

Lewis Terman, Stanford University Professor and IQ test developer, 1922

“80% of the immigrants tested appear to be feeble-minded....Indians, Mexicans, and negroes . . . should be segregated in special classes. . . . They cannot master abstractions, but they can often be made efficient workers.”

The Results are Deeply Problematic Today

- Structures do not allow students to be well-known or well-supported – or teachers to work with each other
- Teachers with large pupil loads are isolated in egg-crate classrooms; students rotate through to be stamped with a standardized curriculum
- Rigid pacing guides mapped to grade-level standards often prevent teachers from meeting student needs
- Focus on narrow tests undermines powerful, engaging learning & whole child development
- Punitive rules to achieve compliance lead to student exclusion and teacher exhaustion
- Unequal treatment is baked into the system

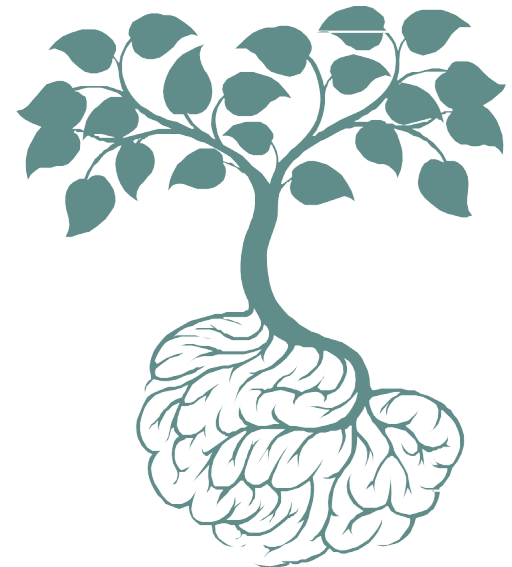


"Deeper learning has a race problem."

...Students in more affluent schools and top tracks are given the kind of problem-solving education that befits the future managerial class, whereas students in lower tracks and higher-poverty schools are given the kind of rule-following tasks that mirror much of factory and other working-class work.

To the degree that race mirrors class, these inequalities in access to deeper learning are shortchanging Black and Latino/a students.

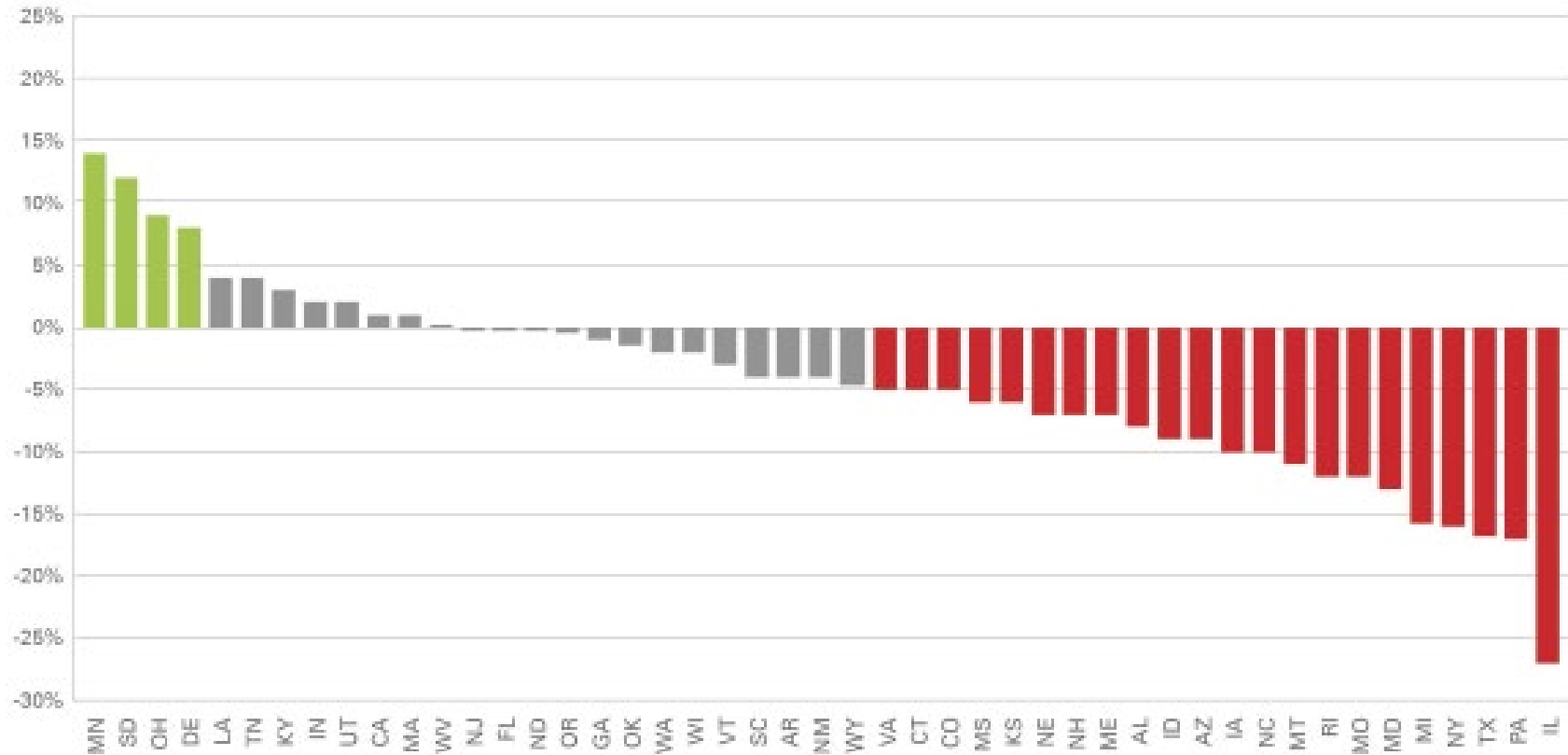
- Jal Mehta -



Funding is Unequal Within and Across States

>30 States Have Regressive Funding Policies

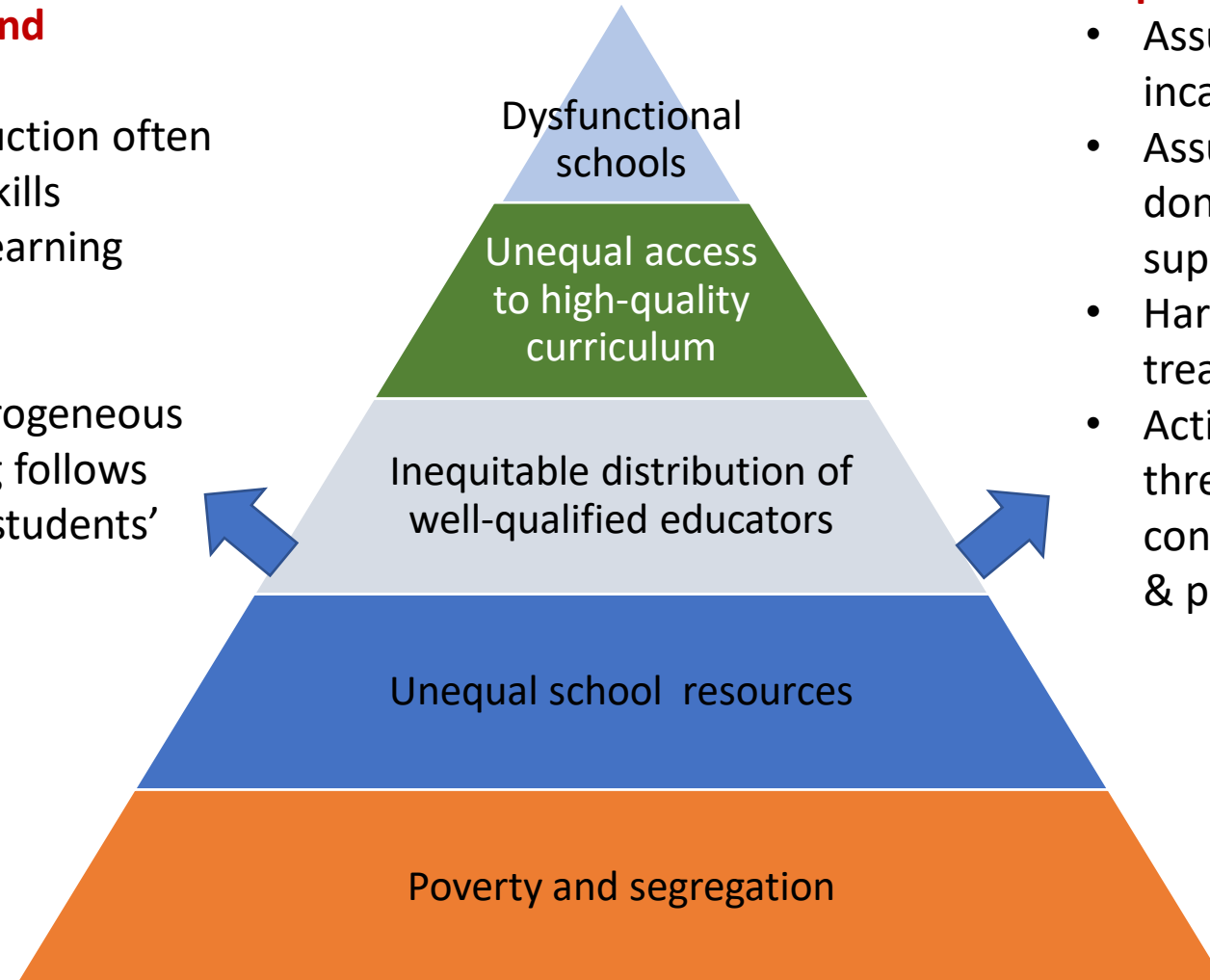
Gaps in State and Local Funding Per Student for Districts Serving the Greatest and Fewest Students in Poverty (Adjusted for Pupil Needs)



The Anatomy of Inequality

Inadequate understanding of learning, development, and pedagogy leads to:

- Poorly organized instruction often focused on low-level skills
- Few tools to scaffold learning or respond to needs
- Exclusionary discipline
- Inability to teach heterogeneous classes; hence tracking follows
- Failure to understand students' social, emotional, and academic needs



Implicit bias adds:

- Assumptions that students are incapable and poorly behaved
- Assumptions that families don't care and will not support their children
- Harsh, discriminatory treatment
- Activation of stereotype threat, undermining confidence, growth mindset, & performance

There have been efforts to disrupt this system

1930s

Progressive Education Association and others created schools grounded in democratic practices and authentic learning. The Eight Year study led by Ralph Tyler found the graduates had stronger academic outcomes and were more practically resourceful and socially responsible.

1960s

Civil rights movement supported equity initiatives in school funding and desegregation. Innovative curricula in math, science, and social studies were federally funded and disseminated. Innovative schools were developed around the country and new approaches to teacher training (Urban Teacher Corps; MAT programs) were launched.

1990s

States launched new standards focused on higher-order skills and many designed performance-based assessments. More progress was made on funding equity. New small schools were created in NY, Chicago, LA & elsewhere & studied by NCREST at TC, Chicago Consortium, UCLA Center X

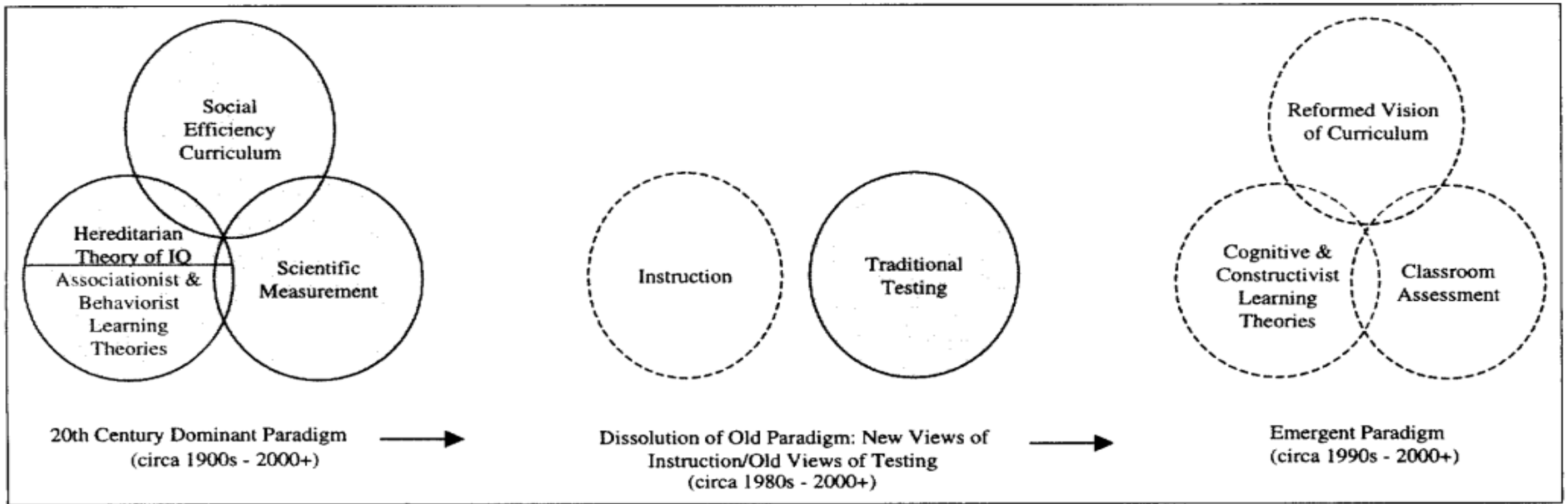
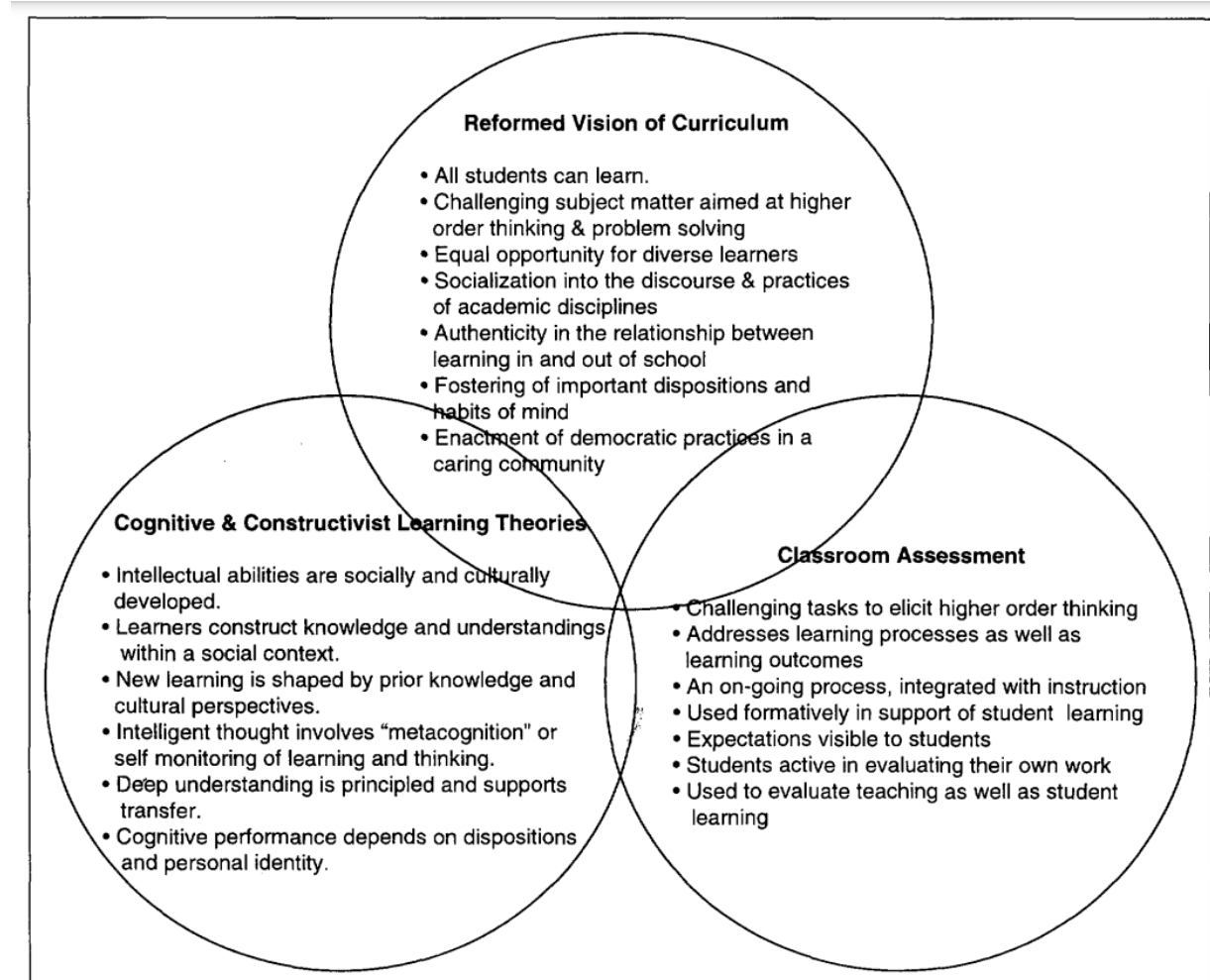
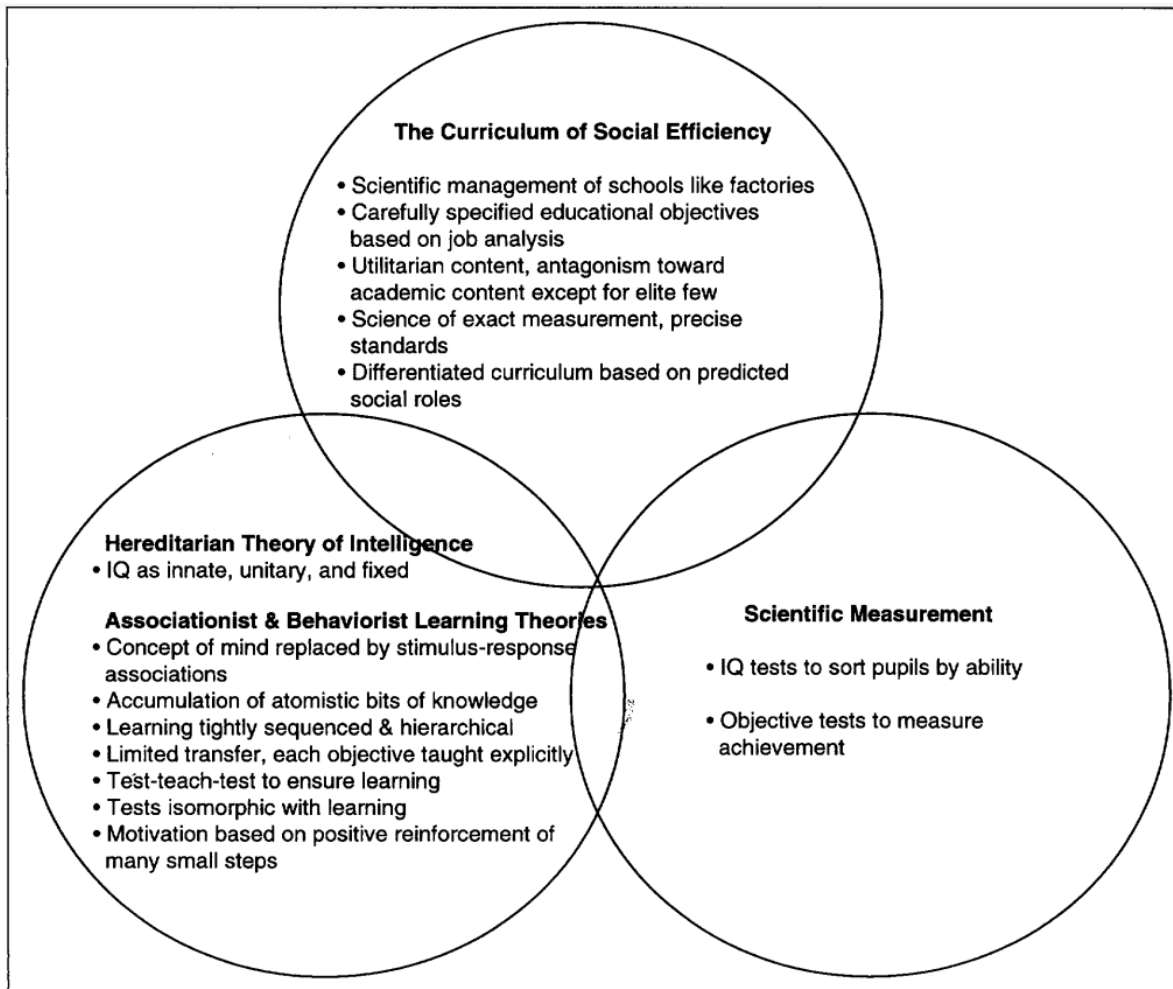


FIGURE 1. *An historical overview illustrating how changing conceptions of curriculum, learning theory, and measurement explain the current incompatibility between new views of instruction and traditional views of testing.*

In her 1999 presidential address, Lorrie Shepard looked forward to the emerging new paradigm, grounded in the learning sciences

From atomistic views of knowledge and pre-determined inequality supported by testing for sorting to a democratic, authentic vision of deeper learning for all enabled by assessment for learning.



But No Child Left Behind Doubled Down
on the Factory Model

The Problems with NCLB Were Immediately Obvious to Researchers

“The goals that NCLB sets for student achievement would be wonderful if they could be reached, but, unfortunately, they are [so] unrealistic ... that they are apt to do more to demoralize educators than to inspire them. If the AYP requirements are enforced, they will also result in many schools receiving sanctions that are making great strides in teaching students. This is so because steady and significant progress is not recognized as improvement under NCLB unless AYP targets are met.”

-- Robert Linn, AERA Presidential Address, April 2003

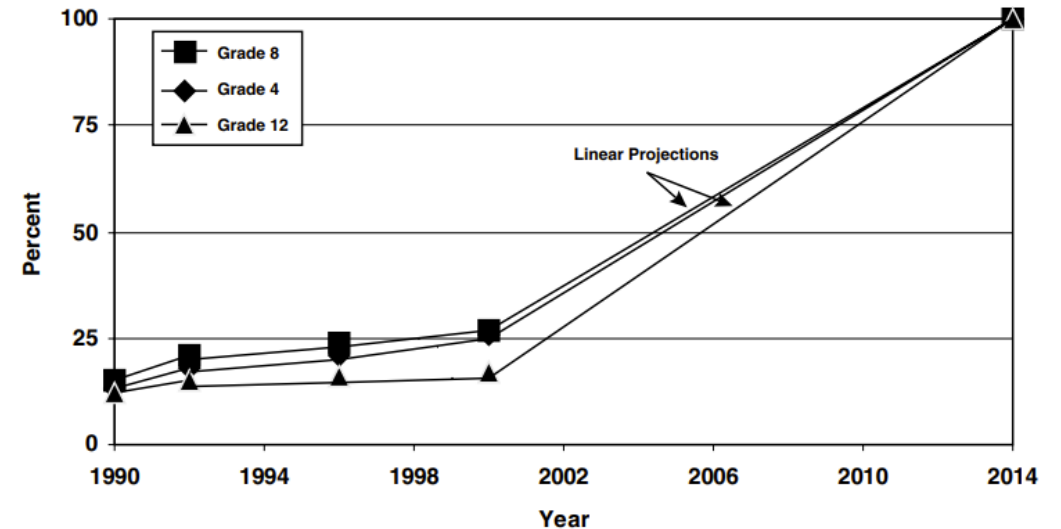


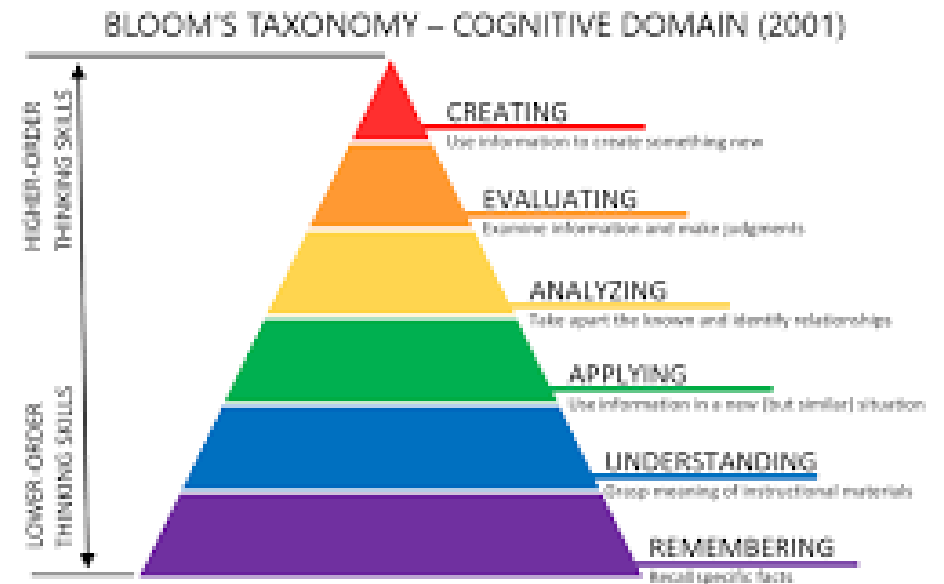
FIGURE 1. NAEP mathematics trends with projections to 2014: percent proficient or above.

Research Documented School Experience under NCLB

- Performance assessments were abandoned
- More testing of lower quality took its place
- Sanctions drove more attention to teaching to the test
- Teachers returned to teaching for coverage
- Schools and states paid more attention to selecting and sorting, tracking and labeling (Civil Rights Project)
- Systems raised scores by pushing out students (Vasquez-Heilig)
- High needs schools experienced more teacher churn
- Schools were closed, especially in Black communities creating “education deserts” (Pearman)
- Tens of thousands of Black teachers were lost to the profession (Carver-Thomas & Darling-Hammond)

Tests Typically Focused on Lower – Level Skills

- As a result of NCLB, most states phased out performance assessments that could assess higher-order skills.
- RAND study of 17 states' tests in 2015 (those with the highest standards): Only 2% of math items and 21% of ELA items assessed higher-order skills.



Teaching to Formulaic Tests of Low-Level Skills Undermines Learning



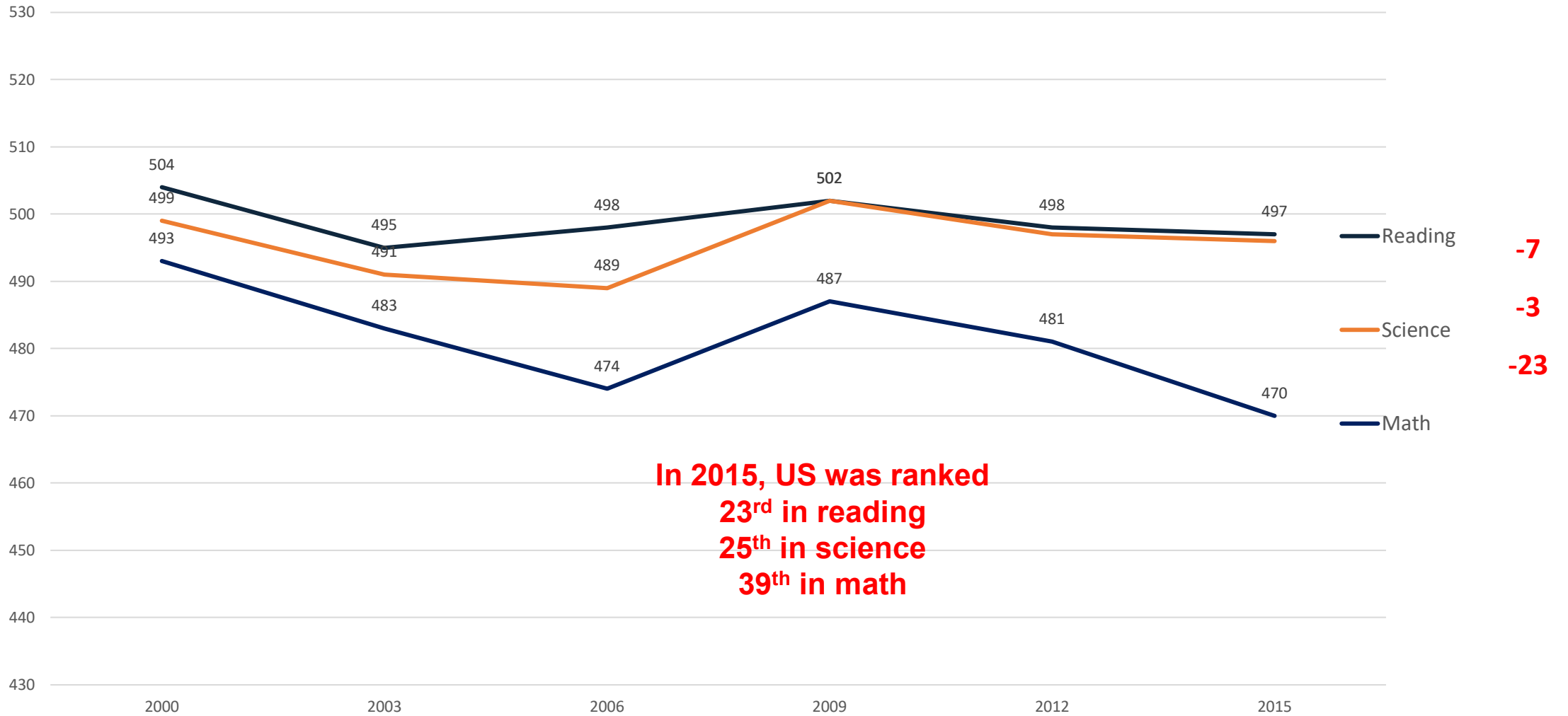
“I have seen more students who can pass [the test] but cannot apply those skills to anything if it’s not in the test format... *As for higher quality teaching, I’m not sure I would call it that....*”

–Texas Teacher

The Effects of Standardized Testing on Quality Teaching



During the NCLB Era, the gaps between the US and other nations grew (PISA: 2000-2015)



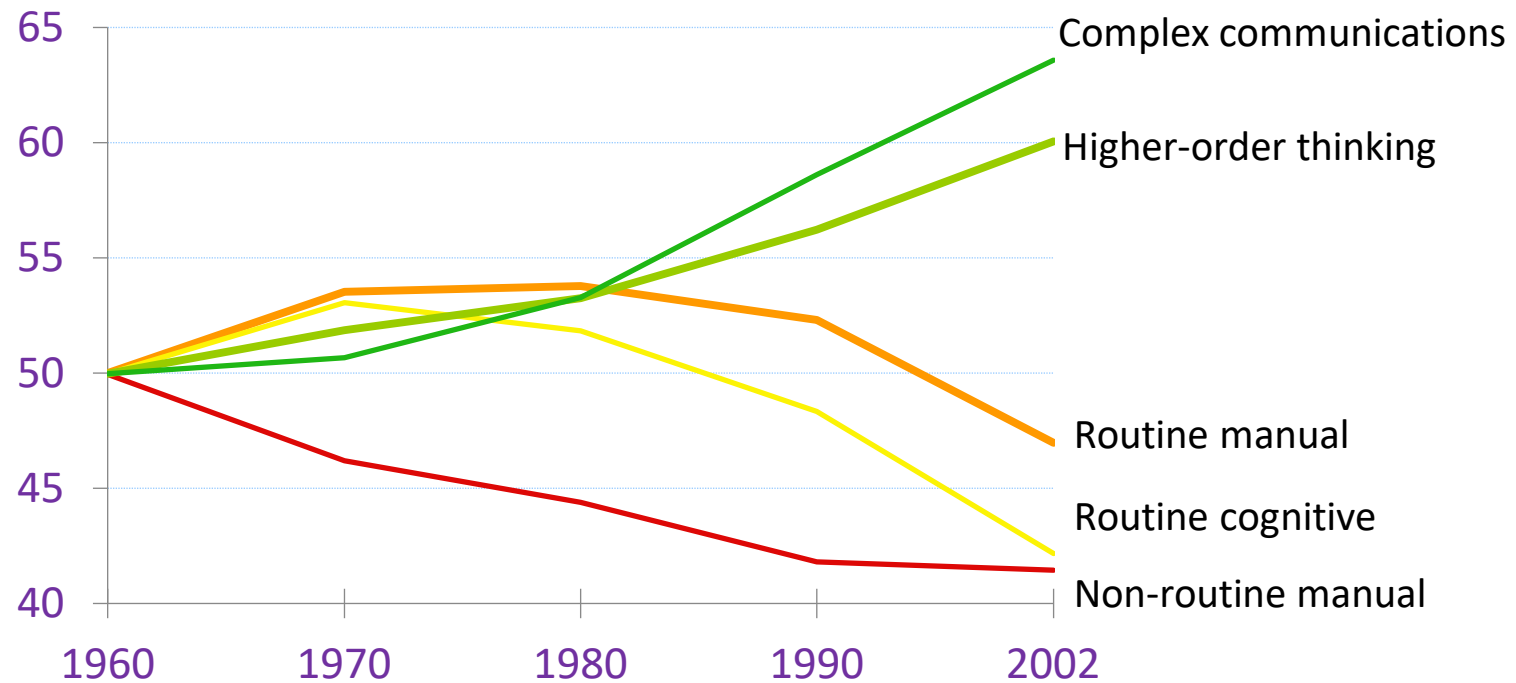
For 3 Decades, the US Has Been Growing Two Achievement Gaps

- The gap between affluent, white students in the U.S. and students of color and those in poverty
- The gap between U.S. students and those in other high-achieving nations that have made more systemic – and more equitable - investments in education over the last 30 years.



Meanwhile, the world has changed
dramatically

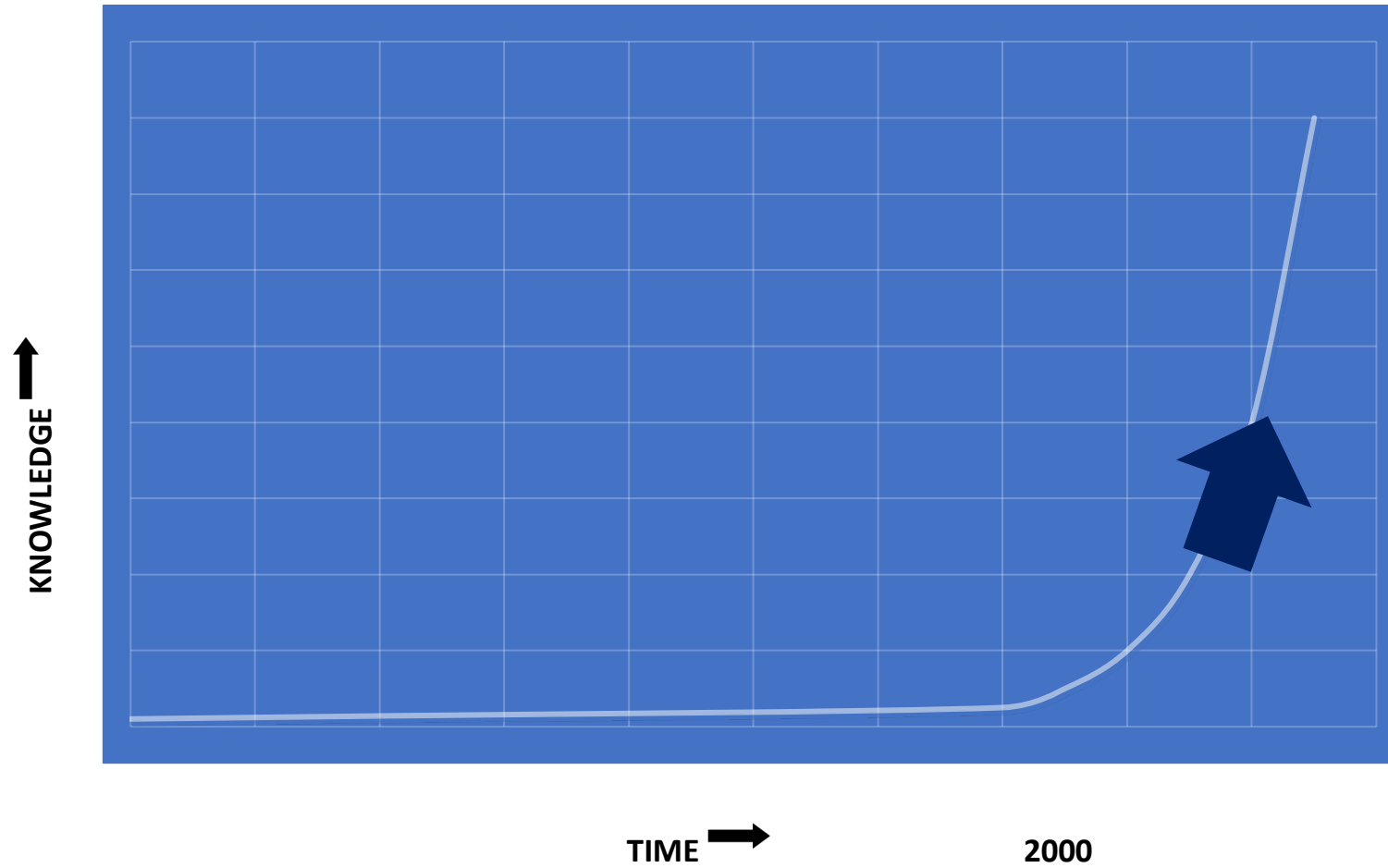
Demand for Skills Has Been Changing Faster than Our Education System Has Responded



The dilemma of schools:

The skills that are easiest to teach and test are also the ones that are easiest to digitize, automate, and outsource

Knowledge is Growing Exponentially



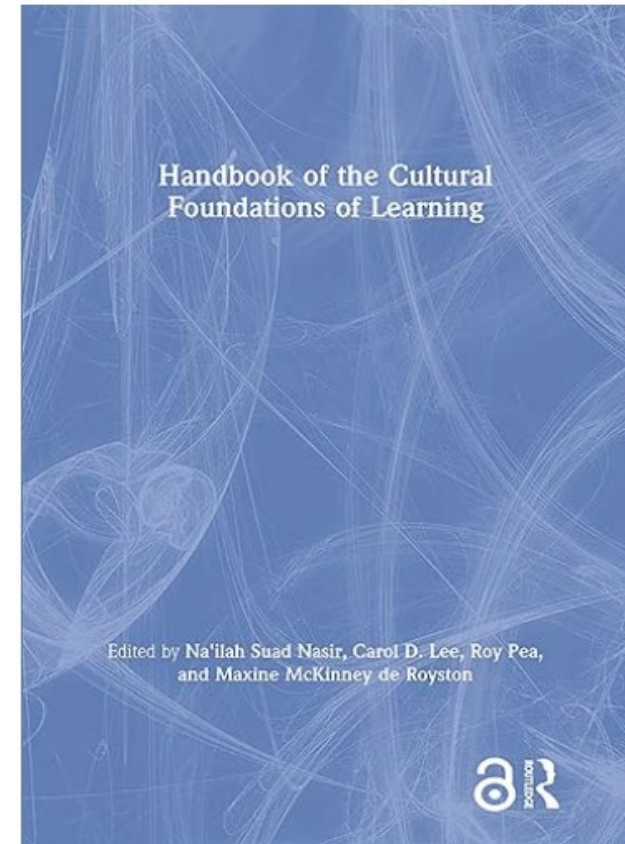
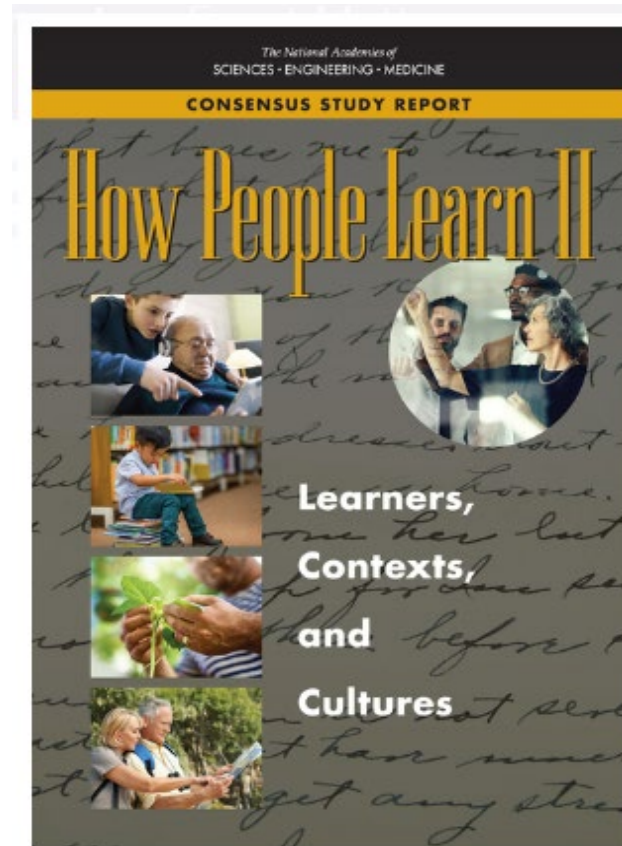
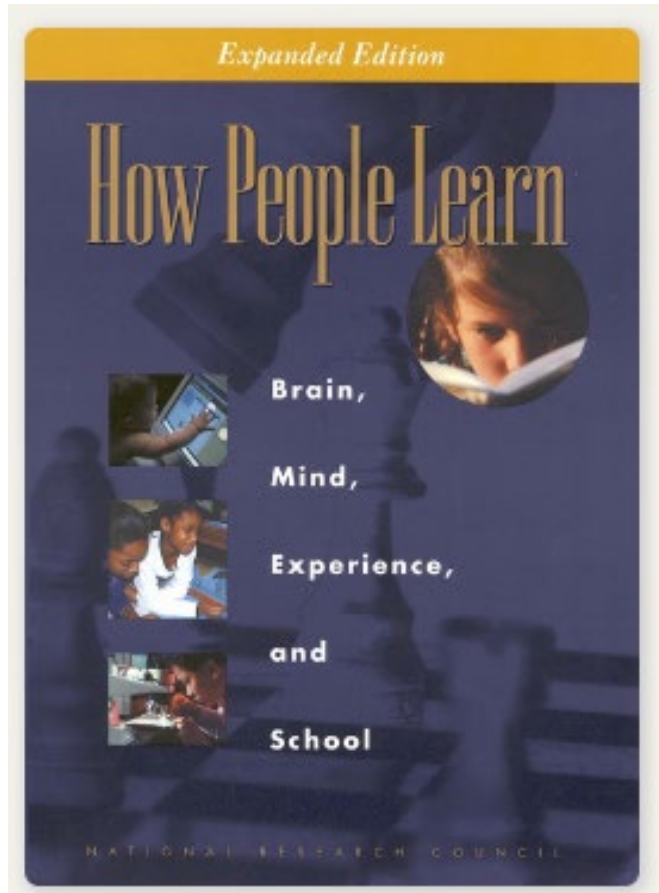


Teaching for Learning Ability



- The abilities to:
- Transfer and apply knowledge
- Analyze, evaluate, integrate
- Communicate and collaborate
- Take initiative
- Find and use resources
- Plan and implement
- Self-manage and improve
- Learn to learn

We know more about How People Learn



And about how brains develop

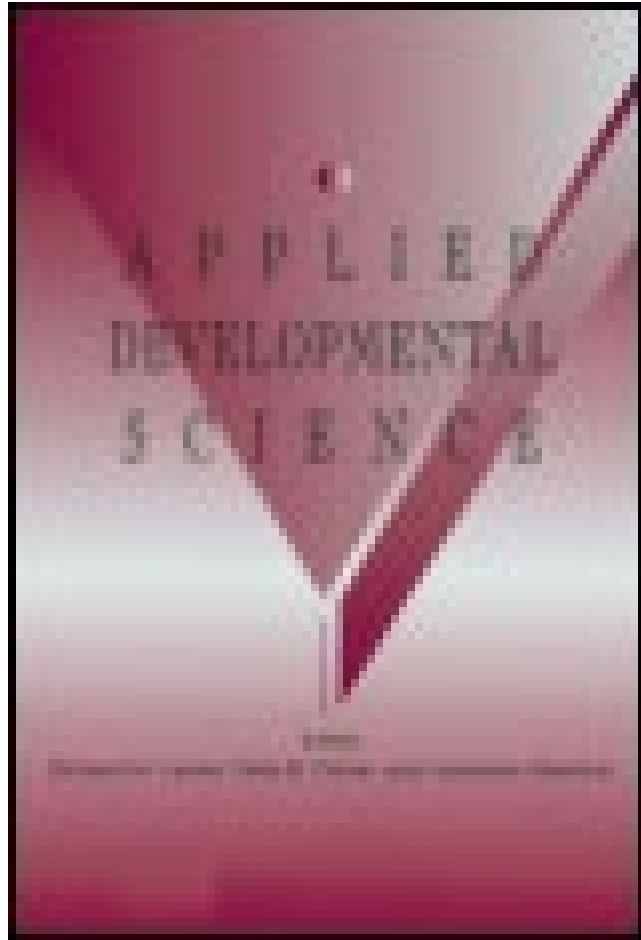
The Development of Neural Networks

Is enhanced by:

- ▷ Social interaction
- ▷ Rich environments
- ▷ Physical activity
- ▷ Music & art
- ▷ Language
- ▷ Emotional well-being
- ▷ Cultural well-being

Is impaired by:

- ▷ Constant stress
- ▷ Anxiety
- ▷ Loneliness
- ▷ Sleep disruption
- ▷ Dietary deficiencies
- ▷ Toxins
- ▷ Identity threats



The Science of Learning & Development

Implications for Practice of the Science of Learning and Development

Linda Darling-Hammond, Lisa Flook, Channa Cook-Harvey, Brigid Barron, & David Osher

<https://www.tandfonline.com/doi/full/10.1080/10888691.2018.1537791>

Malleability, plasticity, and individuality: How children learn and develop in context¹

Pamela Cantor, David Osher, Juliette Berg, Lily Steyer & Todd Rose

Drivers of human development: How relationships and context shape learning and development¹

David Osher, Pamela Cantor, Juliette Berg, Lily Steyer & Todd Rose

Principles from the Science of Learning & Development

- The brain is always developing as a product of relationships and experiences. ***The quality of those relationships and experiences matters greatly.***
- Learning is social, emotional, and academic.
- Children actively construct knowledge by connecting what they know to what they are learning within their cultural contexts.
- Students' perceptions of their own ability influence learning.
- Trauma and adversity affect learning. Relationships are key for healing.
- A child's best performance occurs under conditions of low threat and high support in settings where they are accepted, respected, and enabled.

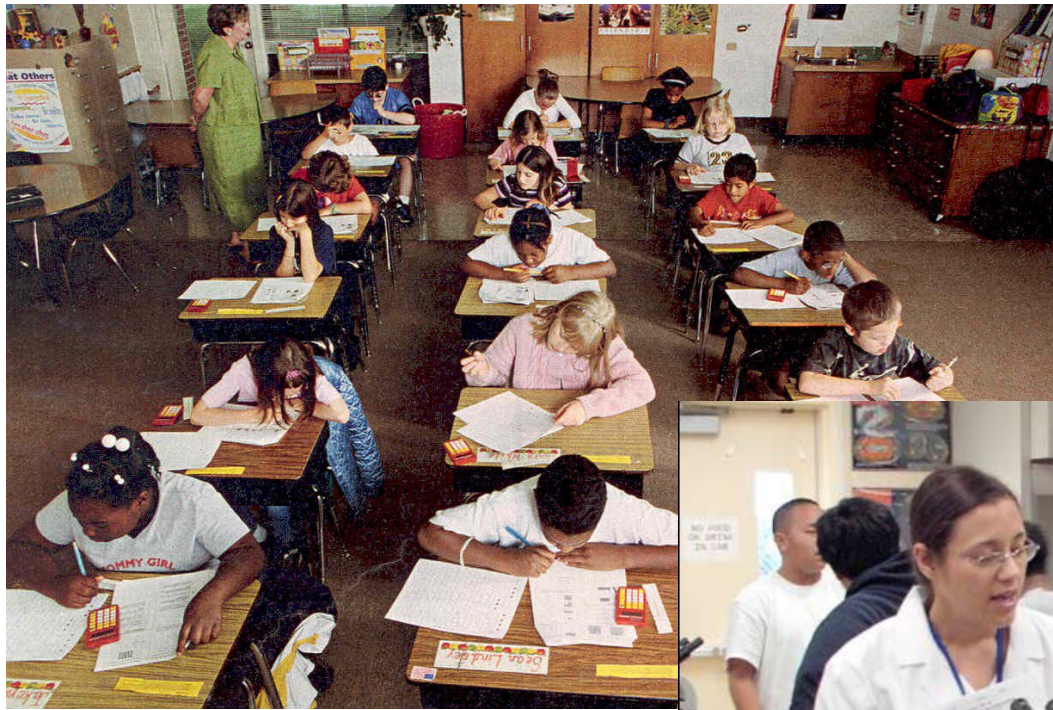
FALSE

- 1 Genes drive who we become
- 2 Talent is scarce
- 3 Average stands for the individual
- 4 The factory model is the way to educate children
- 5 Potential is knowable in advance

TRUE

- Context is the primary driver of who we become
- Talent is plentiful and not a bell curve
- Average rarely represents an individual
- Agency and engagement support deeper learning
- Potential is visible in environments designed to reveal it

What Kind of Schools Do We Need?





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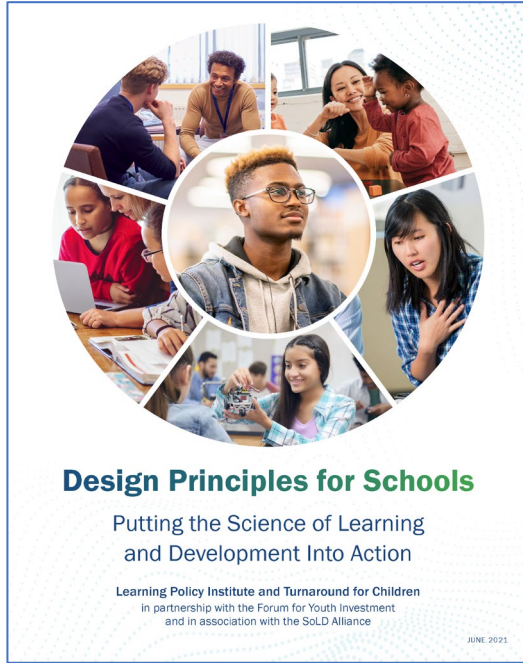
OXYTOCIN

A New Three “R’s” For Thriving Schools

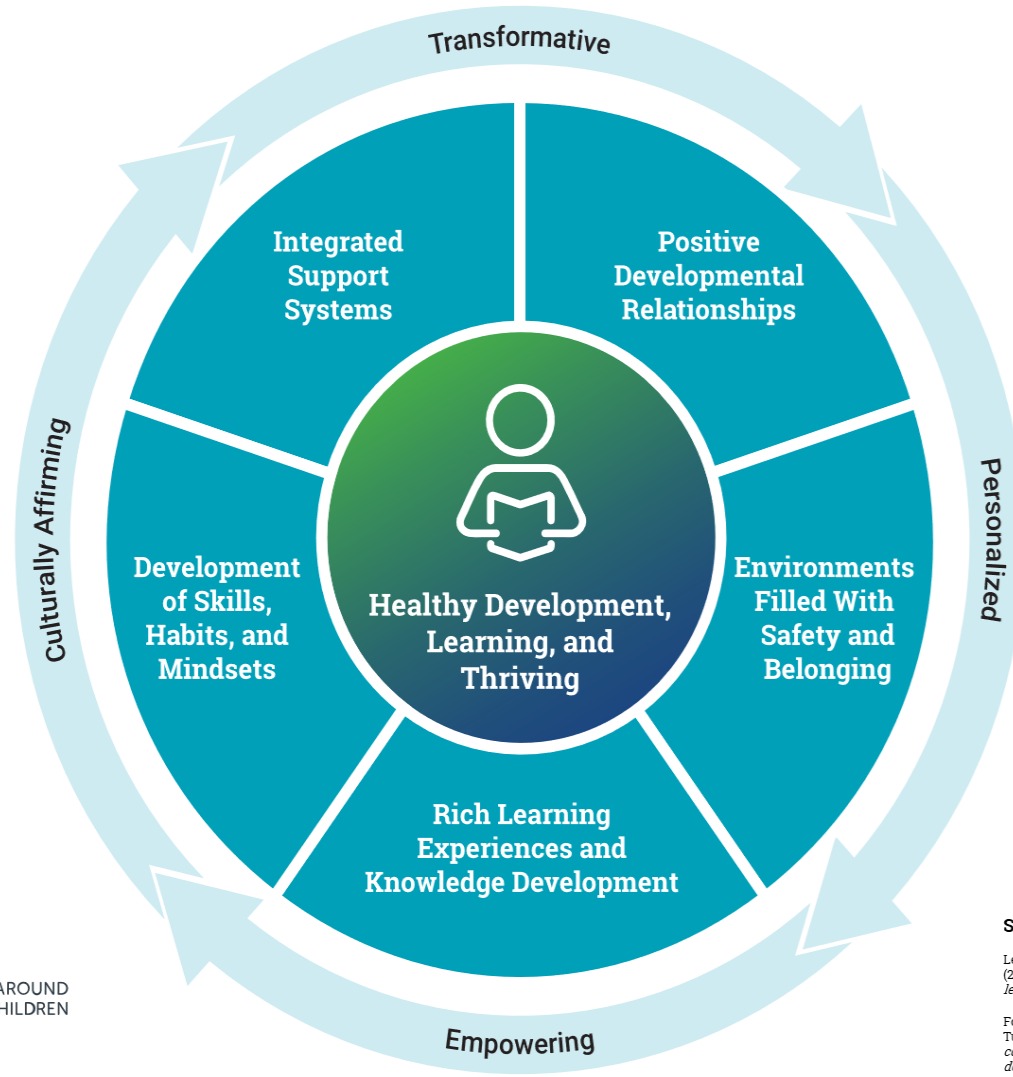
- Relationship-Centered
- Restorative and
- Responsive to
 - Children’s interest and assets
 - Cultural funds of knowledge
 - Ways of learning and
 - Academic, social, & emotional needs



Using the Science of Learning and Development to Design Schools



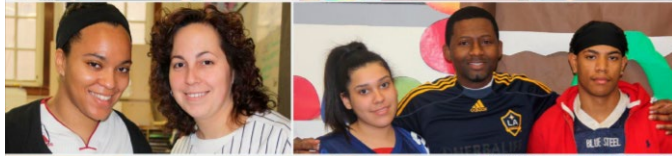
Essential Guiding Principles for Equitable Whole-Child Design



Sources:

Learning Policy Institute & Turnaround for Children. (2021). *Design principles for schools: Putting the science of learning and development into action.*

Forum for Youth Investment (with Learning Policy Institute & Turnaround for Children). (2021). *Design principles for community-based settings: Putting the science of learning and development into action.*



Teaching the Way Students Learn Best Lessons from Bronxdale High School

Jacqueline Ancess, Bethany Rogers, DeAnna Duncan Grand,
and Linda Darling-Hammond

- learningpolicyinstitute.org



Social Justice Humanitas Academy

A Community School Approach
to Whole Child Education

Marisa Saunders, Lorea Martínez, Lisa Flook, and Laura E. Hernández



MAY 2021



Teaching for Powerful Learning

Lessons From Gateway Public Schools

Channa M. Cook-Harvey, Lisa Flook, Emily Efland,
and Linda Darling-Hammond



OCTOBER 2020

We have not yet acted systemically on
this knowledge

But societal disruption can trigger new possibilities

Around the world, we have faced ▶

A public health crisis

An economic crisis

A climate crisis

A civil rights crisis ▶

An education crisis ▶

All of which manifest in ways that
reflect deep inequalities in our society ▶

Current Realities: The US Has ...

- The largest economic disparities since 1929:
 - The top 1% controls 10 times more wealth than the bottom 50% combined
- Growing segregation and concentrated poverty
- High rates of childhood poverty, food and housing insecurity in the most vulnerable communities
- Educator shortages nationwide
- Growing number of students opting out of school
- Pandemic effects on health, mental health, and disruption to the status quo

Such Moments Often Lead to Generational Social Changes



Why Reinvent?

Current schools, designed in the early 1900s, were not designed to support:

- Relationships
- A whole child approach
- 21st century skills or deep learning
- Personalized supports
- Equitable opportunity or achievement



Restarting and Reinventing School

Learning in the Time of COVID and Beyond

Linda Darling-Hammond, Abby Schachner, and Adam K. Edgerton

in collaboration with Aneesha Badrinarayan, Jessica Cardichon,
Peter W. Cookson Jr., Michael Griffith, Sarah Klevan, Anna Maier,
Monica Martinez, Hanna Melnick, Natalie Truong, and Steve Wojcikiewicz



AUGUST 2020

How can we use this time to support systemic change?



Restarting and Reinventing School

Learning in the Time of COVID and Beyond

“Reinventing school means focusing on authentic learning and equity and harnessing the knowledge of human development, learning, and effective teaching accumulated over the last century and needed for the next.”

[Restart-reinvent.learningpolicyinstitute.org](https://restart-reinvent.learningpolicyinstitute.org)

What Policies are Needed to Enable Systemic Progress at Scale?

Reconsider: What is School For?

1

- Selecting and sorting for opportunity
- Allocating societal roles and benefits
- Providing trained and low-cost workers for business
- Preserving the social structure

2

- Ensuring access to knowledge
- Developing talent and potential
- Providing empowering learning
- Creating common ground
- Creating a more just and fair society

Understand the Systemic Approach Needed

Quality Curriculum

- Deeper Learning
- Authentic Assessment

Quality Teaching

- Competent Educators
- Culturally Responsive Instruction
- Stable Workforce

Supportive & Inclusive Schools

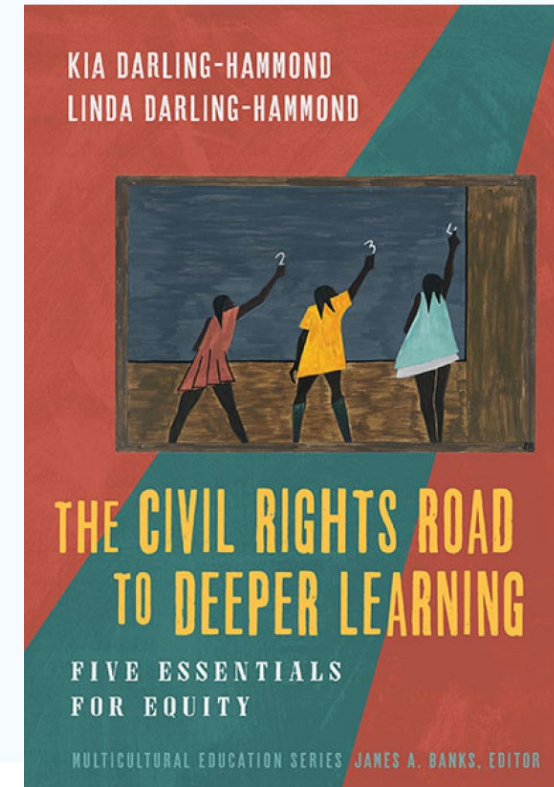
- Inclusive Classrooms
- Restorative Practices
- Wraparound Supports

A Well-Resourced System

- Adequate & Equitable School Funding
- Racially & Economically Integrated Schools

Safe & Healthy Communities

- Healthy Environment Safe
- Community Housing &
- Food Security



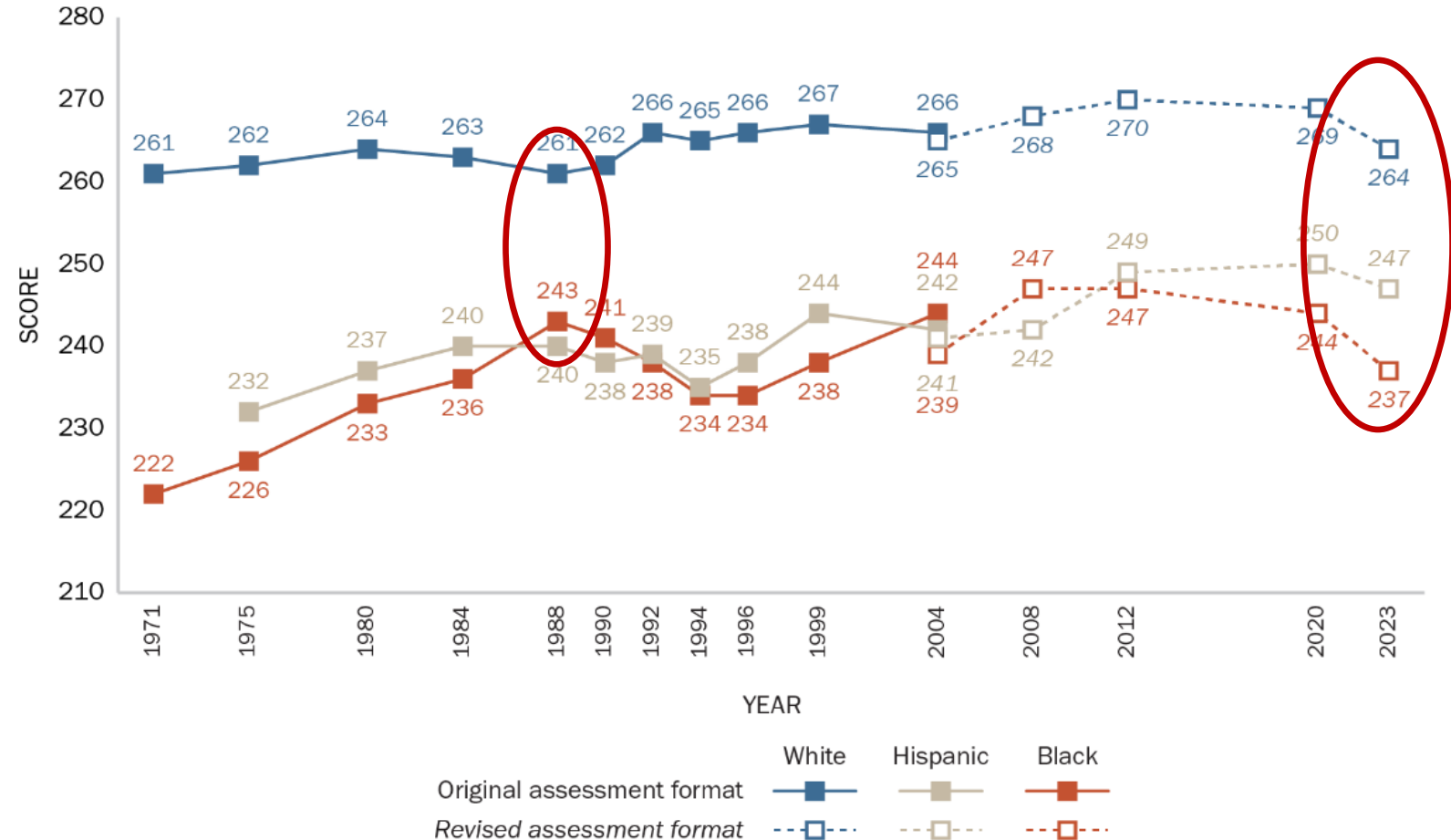
What Does A Systemic Approach Look Like?

Policies of the 1960s and '70s

- Federal and state funds for education expanded
- Funding for families & communities (anti-poverty, housing, nutrition, and more)
- School funding reforms & desegregation assistance
- Federal investments for low-income students and students with disabilities (ESEA & PL 94-142)
- Investments in educator recruitment and preparation
- Investments in state education agencies for research and curriculum assistance to schools
- Investments in urban and rural school supports, summer learning, early learning, innovative curriculum & schools

The black-white achievement gap was halved during the 1960s and '70s with the War on Poverty & investments in educational equity. Elimination of these policies reopened the achievement gap, which is now > 30% larger than it was 35 years ago.

Average Reading Scale Scores on the Long-Term Trend National Assessment of Educational Progress for 13-Year-Olds, by Race/Ethnicity

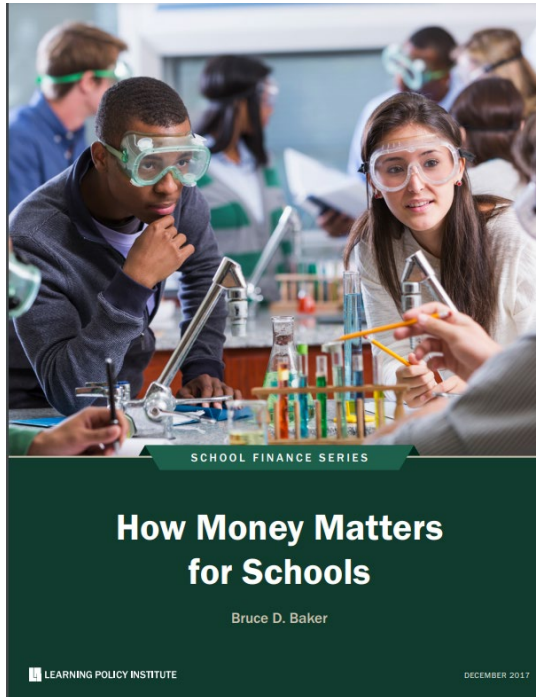


Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1971–2023 Long-Term Trend (LTT) Reading and Mathematics Assessments.

Address The Politics and Presumptions of Pushback

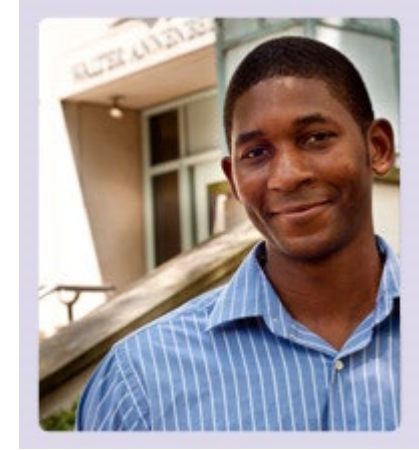
- “Money Doesn’t Matter”
- Poverty is an excuse.
- Teacher education is an unnecessary barrier.
- Accountability = targets and sanctions
- The goal of testing is accurate sorting
- Freedom of learning and inquiry are dangerous
- Time for relationships and social / emotional learning distracts from academic learning

Effects of School Funding Reforms



Over 40 years, low-income students who experienced the benefits of school finance reforms that increased spending by 20% for all of K-12:

- Had graduation rates 23 points higher
- Added a year of post-high school education
- Had family incomes 52% higher
- Were 20 percentage points less likely to experience poverty as adults, closing the gap entirely.



Kirabo Jackson, Rucker Johnson, Jessica Persico (2015).
The Effects of School Spending on Educational and Economic Outcomes

Well-Trained and Well-Supported Teachers & Leaders



The Importance of Teacher Knowledge

“What the evidence suggests most strongly is that teacher quality matters and should be a major focus of efforts to upgrade the quality of schooling. Skilled teachers are the most critical of all schooling inputs.”

- Ronald Ferguson

“Paying for Public Education: New Evidence on How and Why Money Matters.” *Harvard Journal of Legislation*, 28 (Summer 1991), pp. 465-498.

The Impacts of Well-Prepared and Well-Supported Teachers

Research finds that student learning is related to:

- Teachers' strong academic background
- Quality preparation prior to entry
- Certification in the field taught
- Experience (especially in a collaborative teaching environment)
- National Board Certification

In combination, these predict more of the difference in student learning gains than race & parent education combined (Clotfelter, Ladd, & Vigdor, 2008).



SEL Programs
have long been
known to
advance
academic
achievement ...
And new studies
show effects are
long-lasting.

The Impact of Enhancing Students' Social and Emotional Learning:
A Meta-Analysis of School-Based Universal Interventions

Joseph A. Durlak
Loyola University Chicago

Roger P. Weissberg
*Collaborative for Academic, Social, and
Emotional Learning (CASEL),
University of Illinois at Chicago*

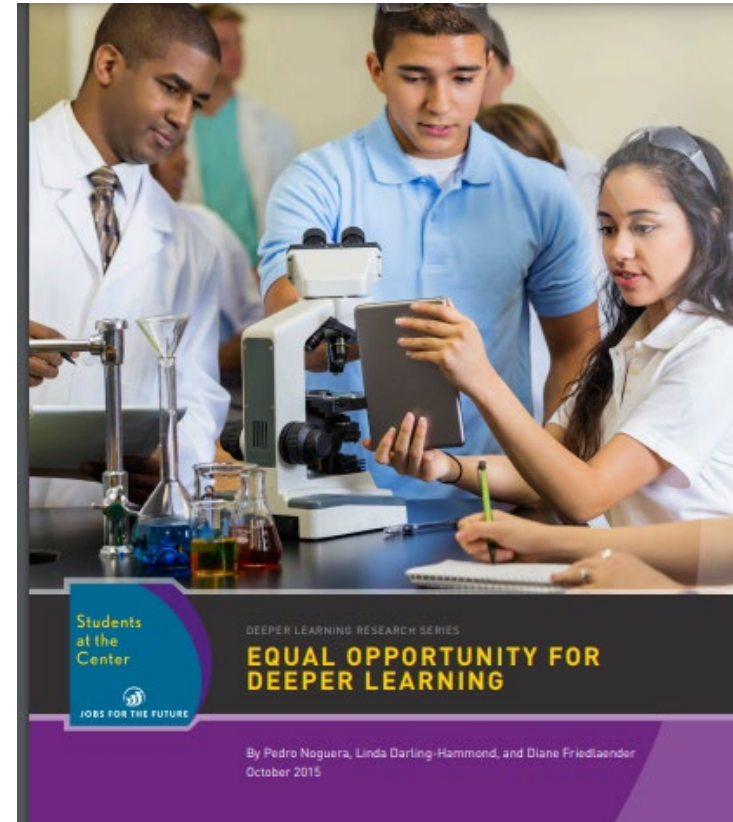
Allison B. Dymnicki and
Rebecca D. Taylor
University of Illinois at Chicago

Kriston B. Schellinger
Loyola University Chicago

This article presents findings from a meta-analysis of 213 school-based, universal social and emotional learning (SEL) programs involving 270,034 kindergarten through high school students. Compared to controls, SEL participants demonstrated significantly improved social and emotional skills, attitudes, behavior, and academic performance that reflected an 11-percentile-point gain in achievement. School teaching staff successfully conducted SEL programs. The use of 4 recommended practices for developing skills and the presence of implementation problems moderated program outcomes. The findings add to the growing empirical evidence regarding the positive impact of SEL programs. Policy makers, educators, and the public can contribute to healthy development of children by supporting the incorporation of evidence-based SEL programming into standard educational practice.

Common Features of Successfully Redesigned Schools

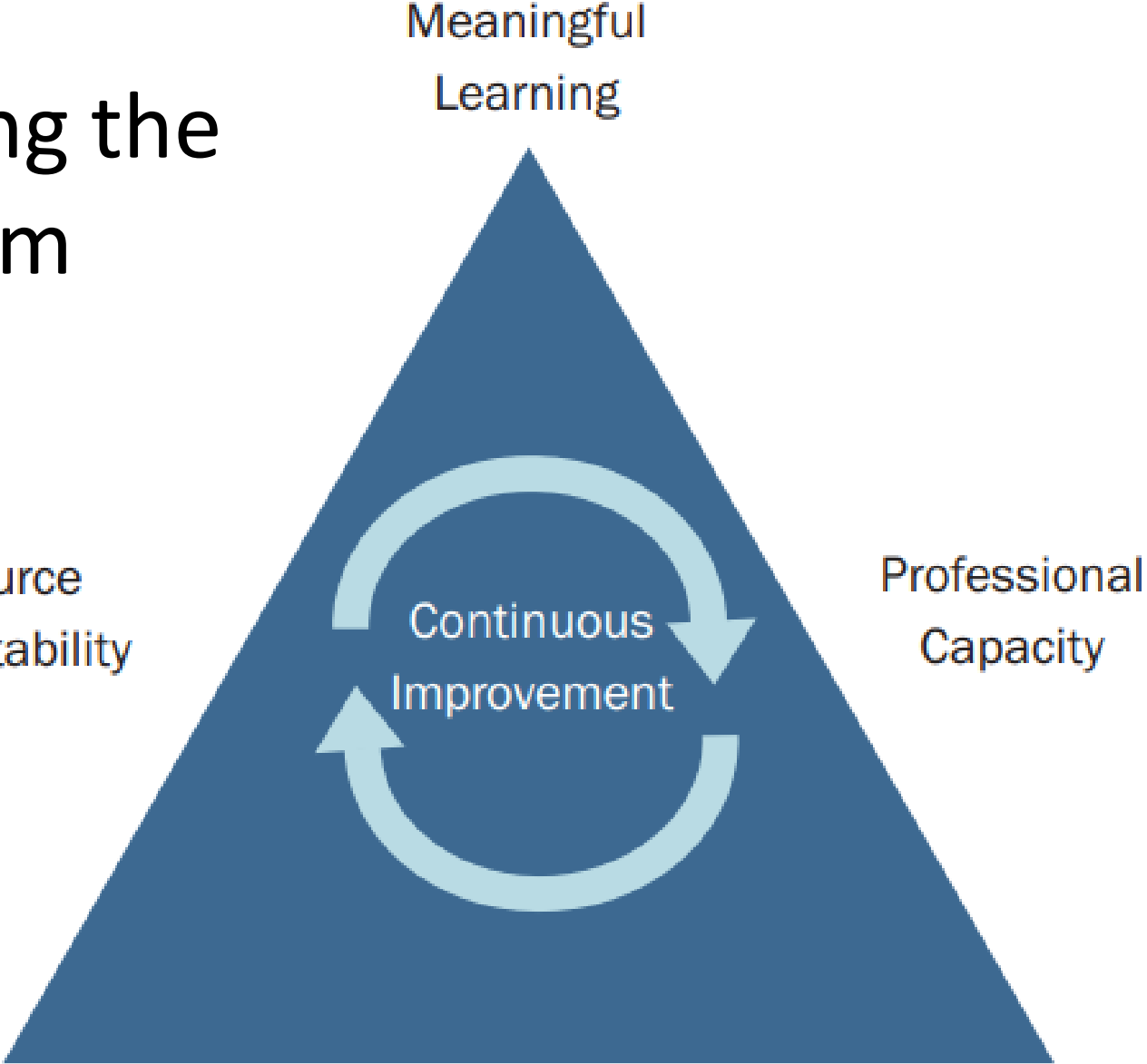
1. Small learning communities
2. Personalization through advisories and teaching teams
3. Authentic curriculum focused on deeper learning
4. Performance assessments & exhibitions
5. Adaptive, responsive pedagogy
6. Restorative practices
7. Flexible supports (routinely available)
8. Family engagement
9. Expert teachers with time for collaborative planning and learning
10. Enlightened and skillful leaders



Yet these schools still live at the margins of most systems

THE ROAD AHEAD

Refocusing the System



Reimagining American Education: Inventing Our Possible Futures

POSSIBLE FUTURES: WHAT MIGHT WE ACCOMPLISH IN 25 YEARS?

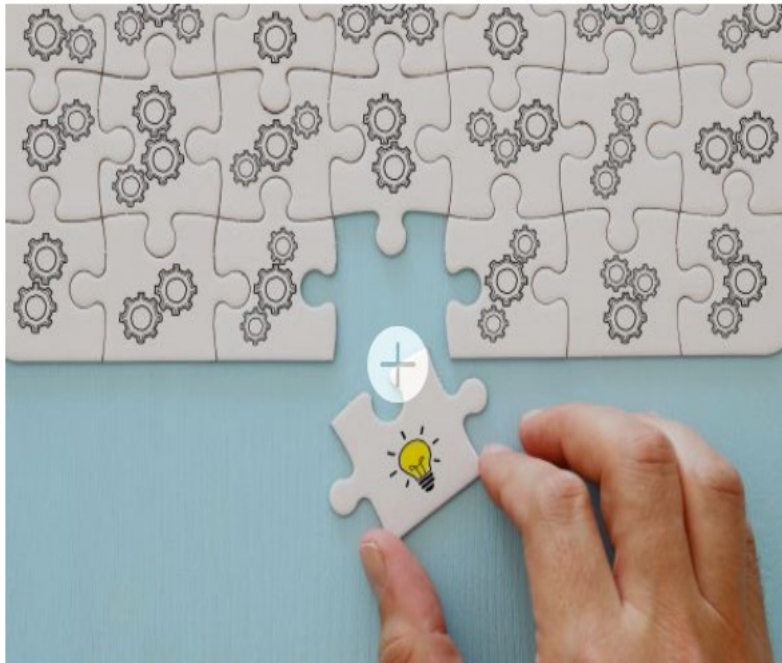
By Hirokazu Yoshikawa, Megan Bang, Na'ilah Suad Nasir | Sep 27, 2021 | Reimagining American Education: Possible Futures



Phi Delta Kappan Series:

Carol Lee – Curriculum
Deborah Ball – Teaching
William Penuel – Assessment
Jal Mehta – School Design
Ann Ishimaru – Youth,
Families & Communities
Linda Darling-Hammond -
Policy

Possible Futures: The Policies We Need to Get There



School Funding Reforms for Equitable Allocation of Resources

Accountability Designed to Ensure Learning Opportunities and Supports

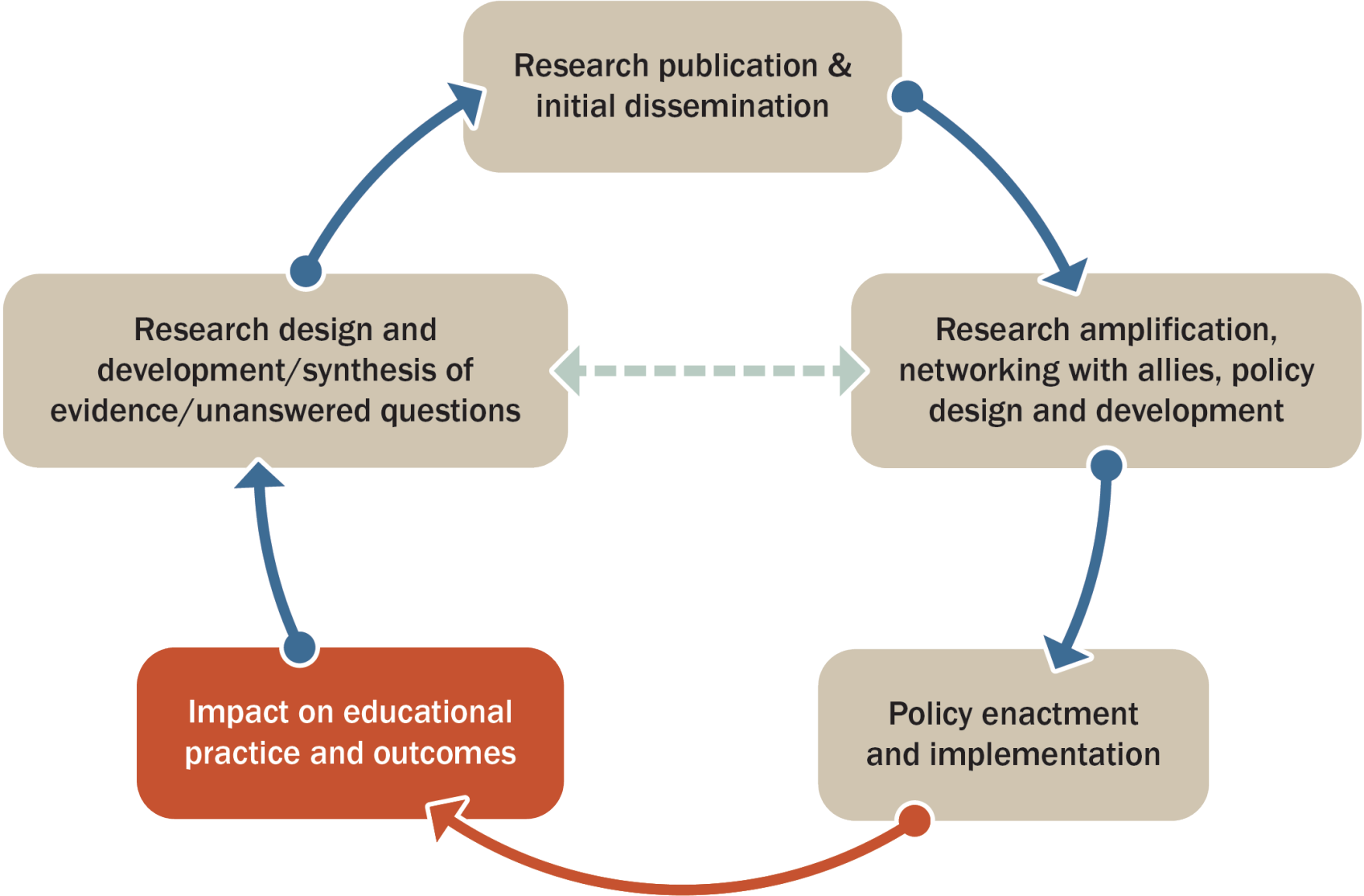
Curriculum and Assessment Designed to Support Meaningful Learning, Not Sorting

School Redesign for Relationships and Responsiveness

Educator Preparation & Support for Expert, Culturally Competent Practice

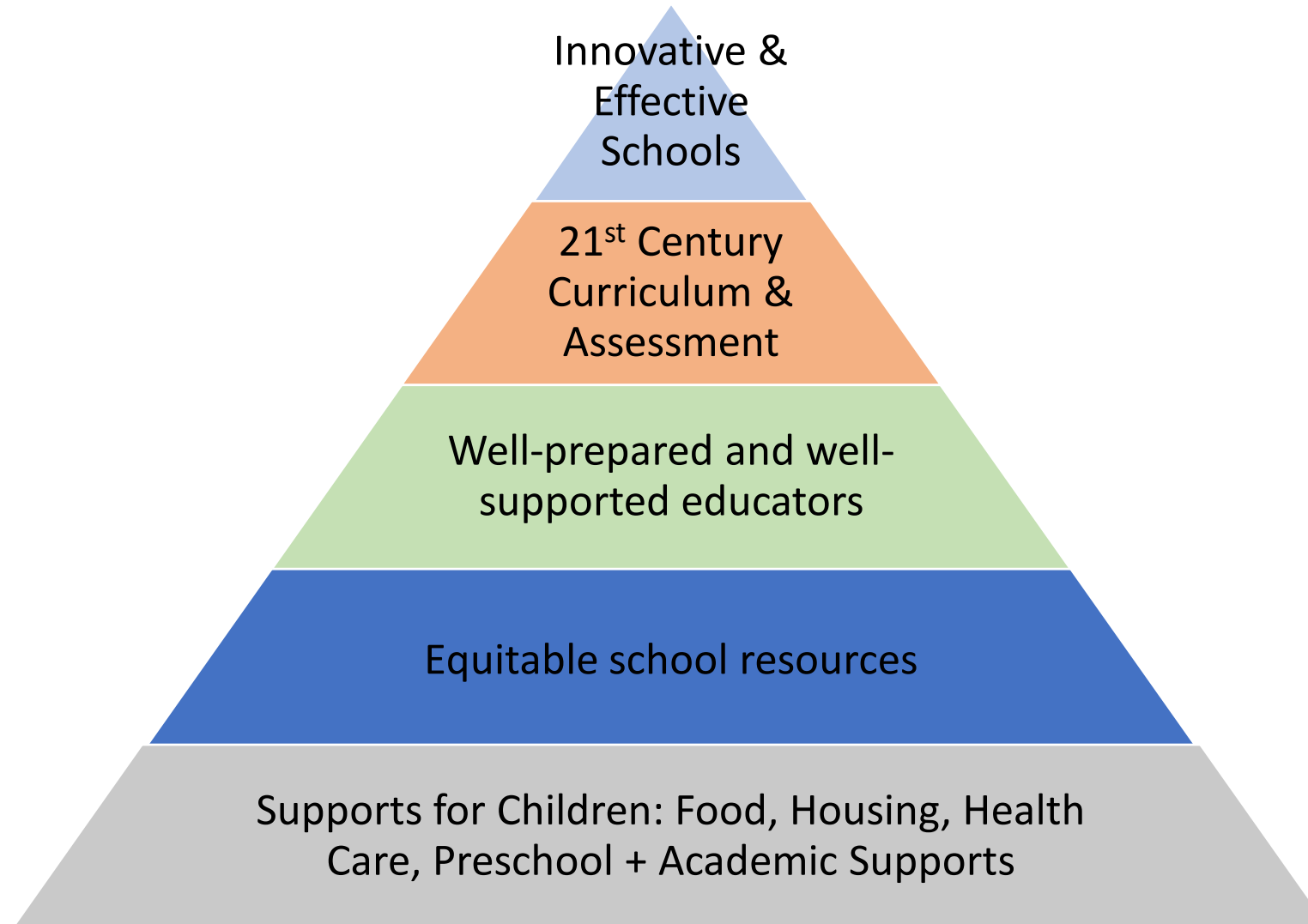
Investments in Children's Well-being through Economic Policy and Community Schools

How to Impact Policy: A Theory of Action



Legislators
Litigators
Arbitrators
Investigators
Journalists
Agency staff
Advocates
Educators
Educator preparers

The Anatomy of Equity



What Will be the History of 21st Century Education?

“What the best and wisest parent wants for his or her child, that must the community want for all of its children. Any other goal is narrow and unlovely. Acted upon, it destroys our democracy...Only by being true to the full growth of all the individuals who make it up, can society by any chance be true to itself.”

-- John Dewey



A Constant Set of Questions



On some positions,
Cowardice asks the question, 'Is it safe?'
Expediency asks the question, 'Is it politic?'
And Vanity comes along and asks the question, 'Is it popular?'
But Conscience asks the question 'Is it right?'
And there comes a time when one must take a position that is
neither safe, nor politic, nor popular, but he must do it because
Conscience tells him it is right." —*Martin Luther King, Letter from a
Birmingham Jail*