

The Importance of Early Childhood Experience



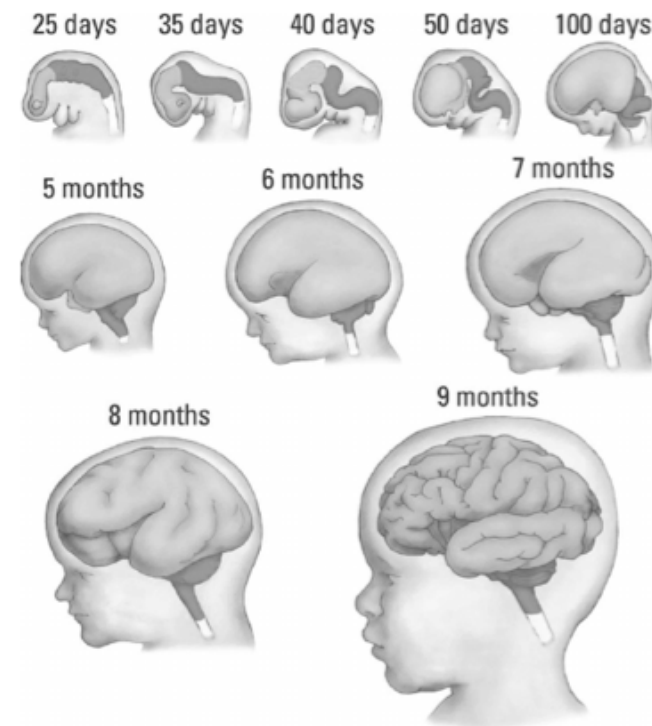
Geoffrey Nagle, PhD, MSW, MPH
September 23, 2019

Early Experience

- Early experience is the “smoking gun” for both **education** success and long-term **health**.
 - Things that happen early in life leave biological memories in your body.
 - “Gets under your skin”

Brain Architecture

- Major Stages of Brain Development
 - Neural tube formation
 - Cell proliferation
 - Cell differentiation
 - Cell migration
 - Cell connections
 - Synaptic pruning
 - Myelination



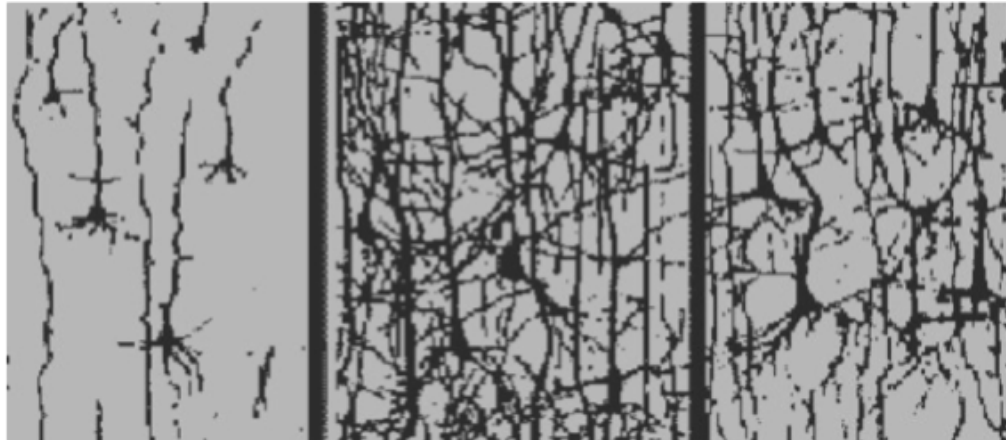
Gilkerson & Klein/Zero to Three (2008)

Synapse Formation

Birth

2 Years Old

6 Years Old



- Synapse formation peaks at the rate of 40,000 per second between 3 and 15 months of age.

The Brain Changes its Structure and Function in Response to Experience

- Plasticity
 - The brain is adaptable and can be influenced by positive experiences.
 - The brain is vulnerable and can be harmed by negative experiences.

Toxic Stress



The Body's Response to Stress

- Increase in heart rate
- Increase in blood pressure
- Increase in breathing rate

Cortisol

- Suppresses the immune system
- Impairs memory/shrinks hippocampus
- Impairs selective attention
- Creates anxious behavior

Cortisol

- If exposed to chronic stress, an elevated level of hormone production becomes "normal."

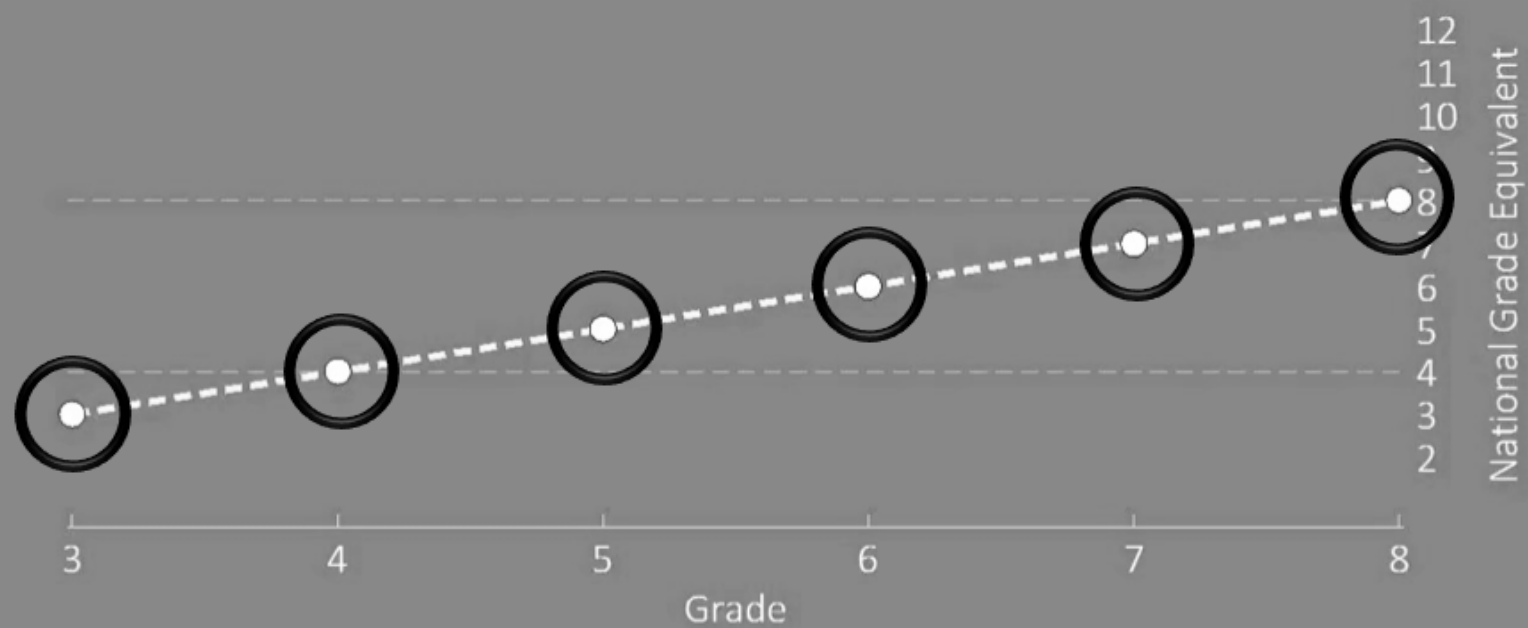


Successful Schools



Average Academic Achievement, by Grade

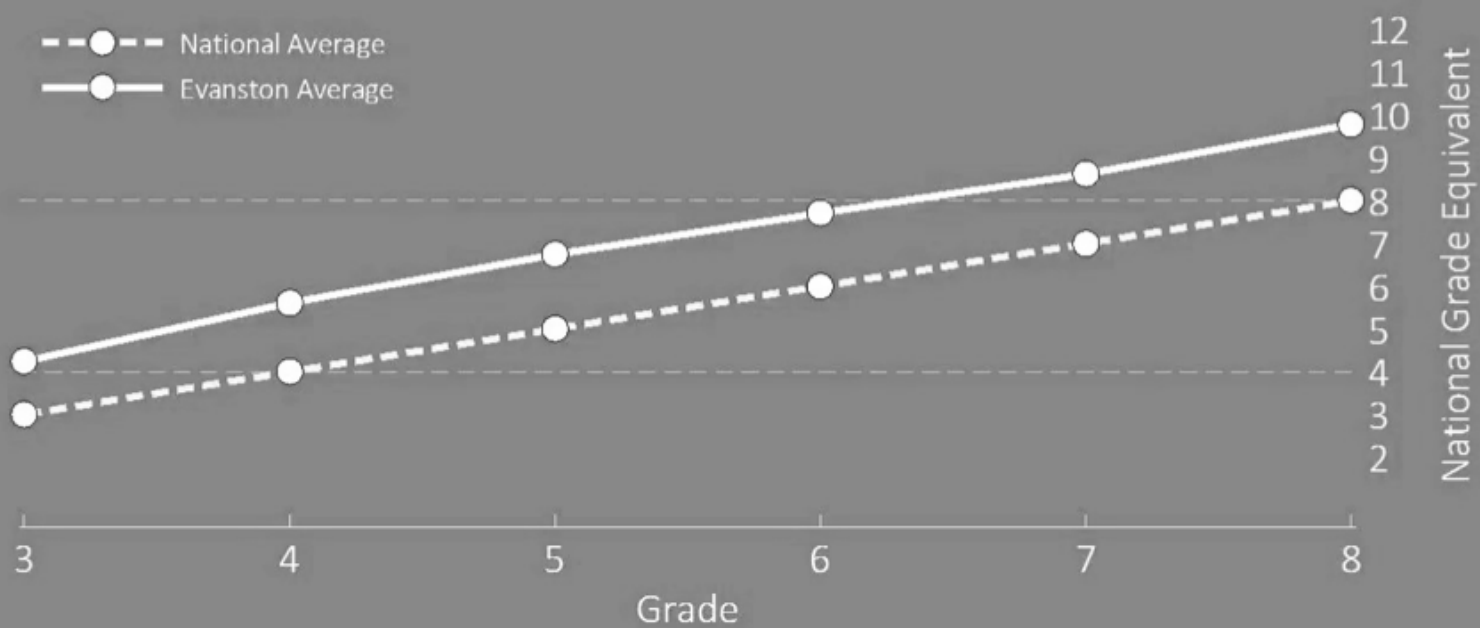
National Average, 2009-2013



Reardon, 2017

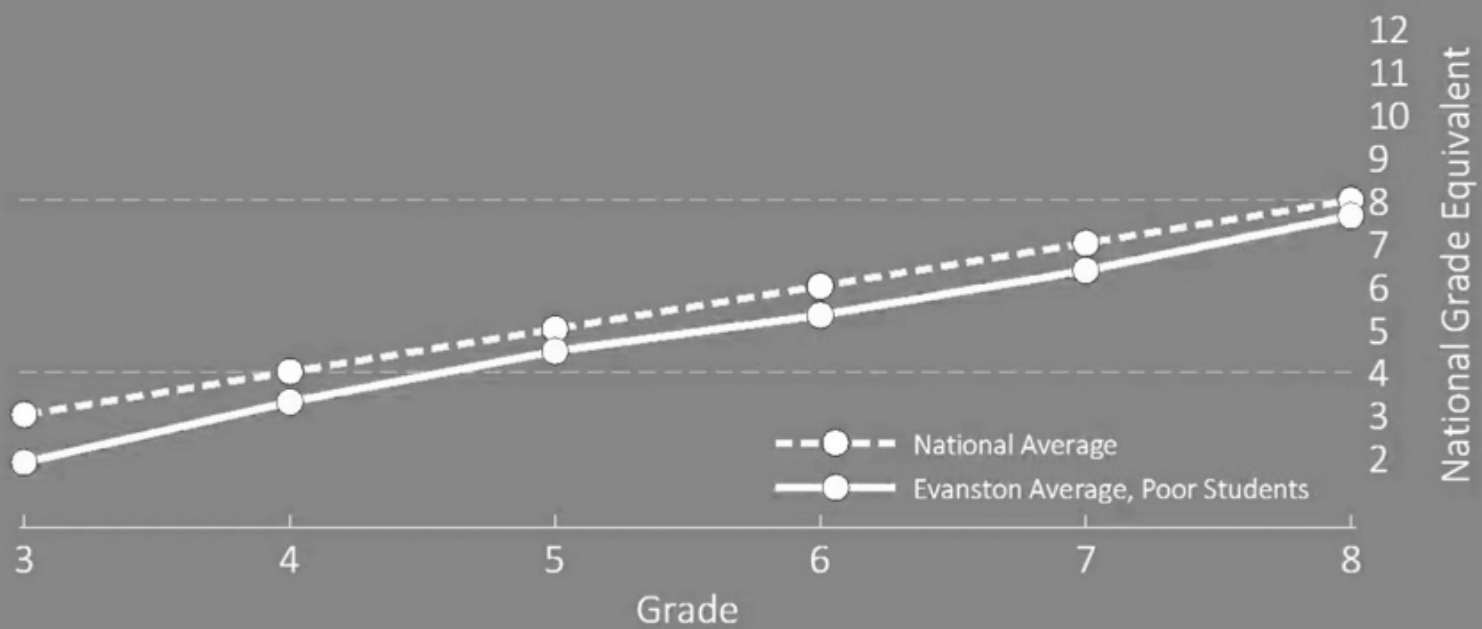
Average Academic Achievement, by Grade

Evanston, 2009-2013



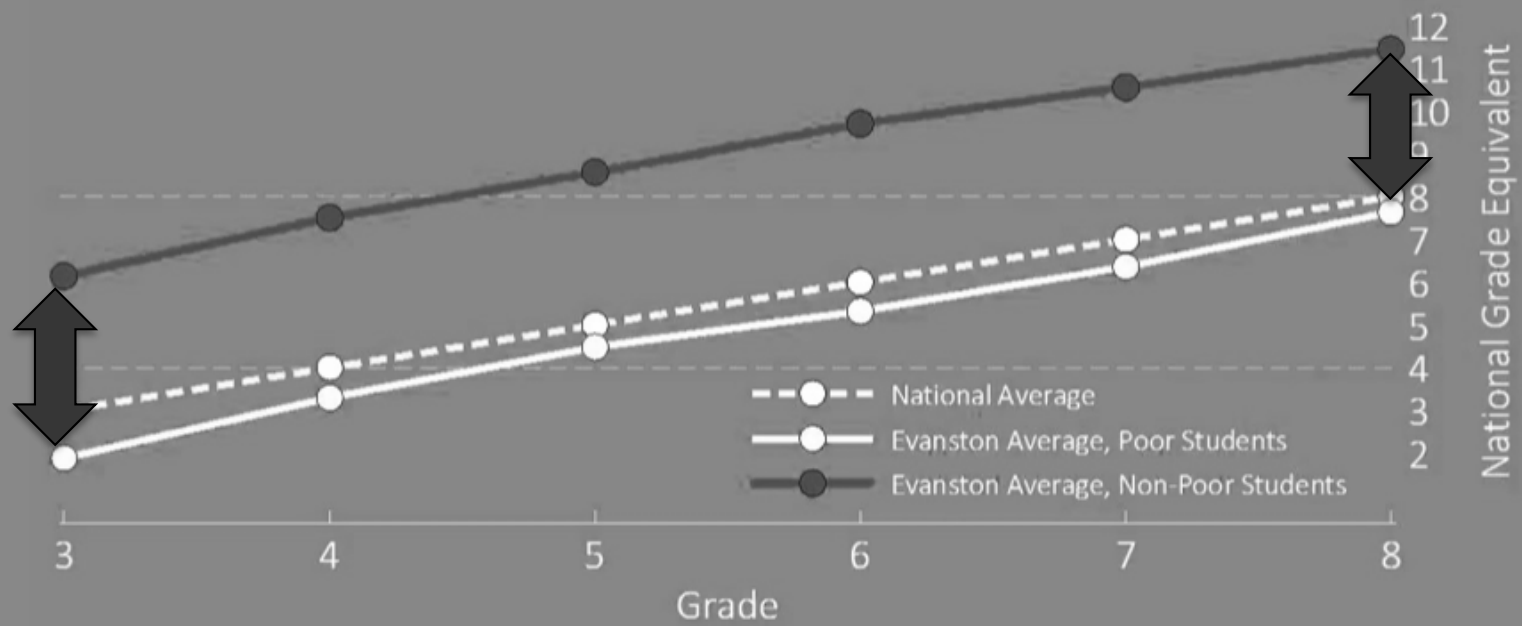
Average Academic Achievement, by Grade

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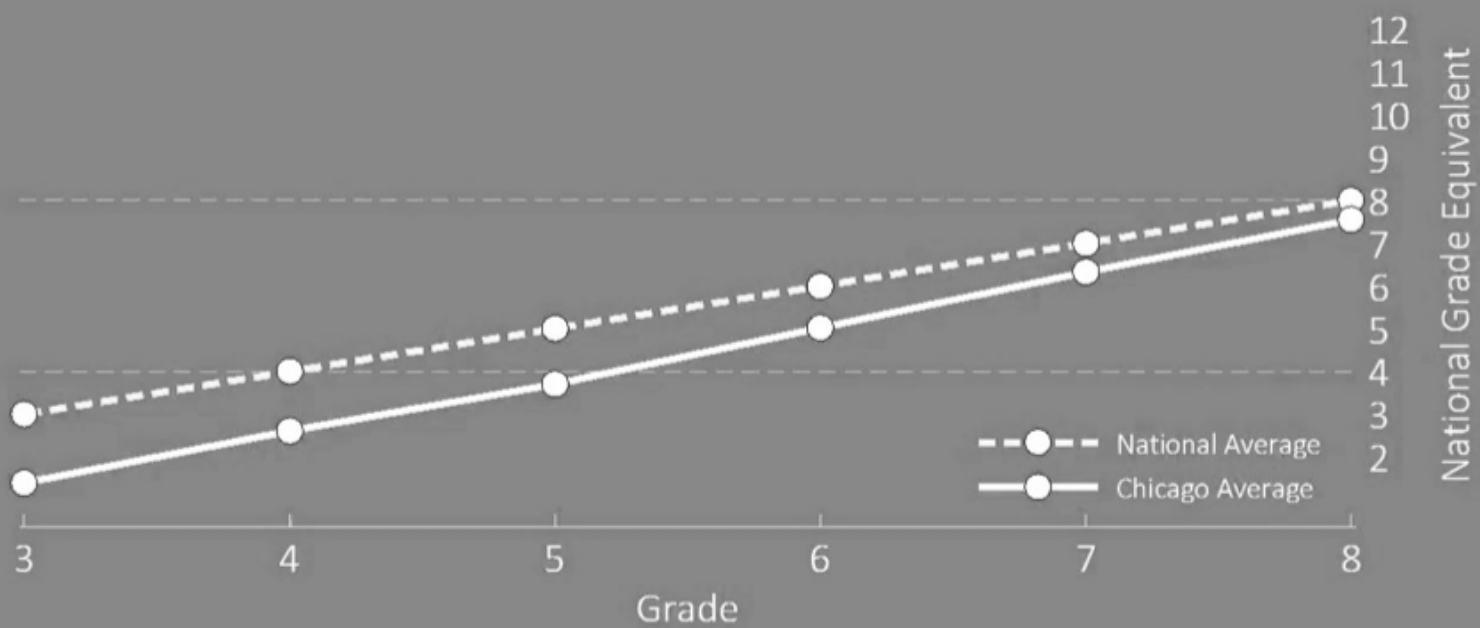
Average Academic Achievement, by Grade

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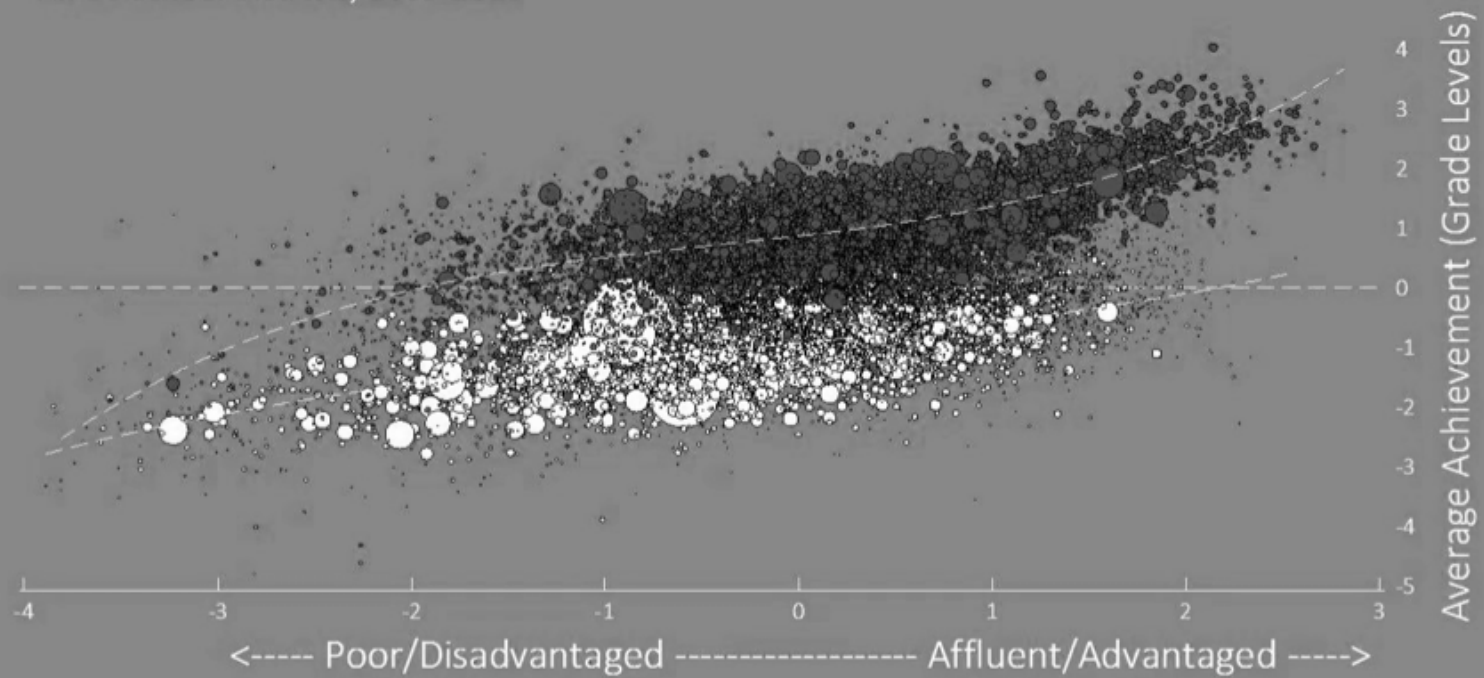
Average Academic Achievement, by Grade

Chicago, 2009-2013



Academic Achievement and Socioeconomic Status

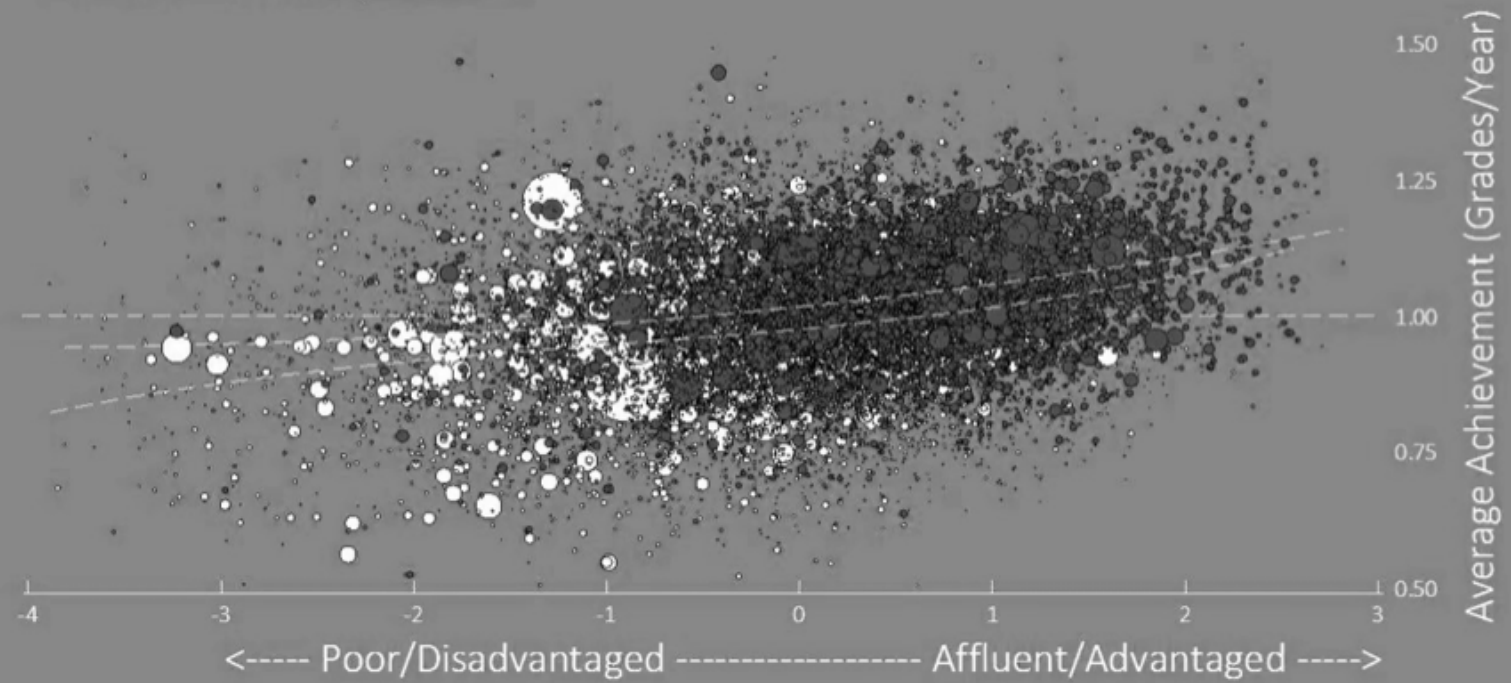
All US School Districts, 2009-2013



Reardon, 2017

Achievement Growth and Socioeconomic Status

All US School Districts, 2009-2013



Reardon, 2017

NY Times – Upshot 12/5/17

TheUpshot

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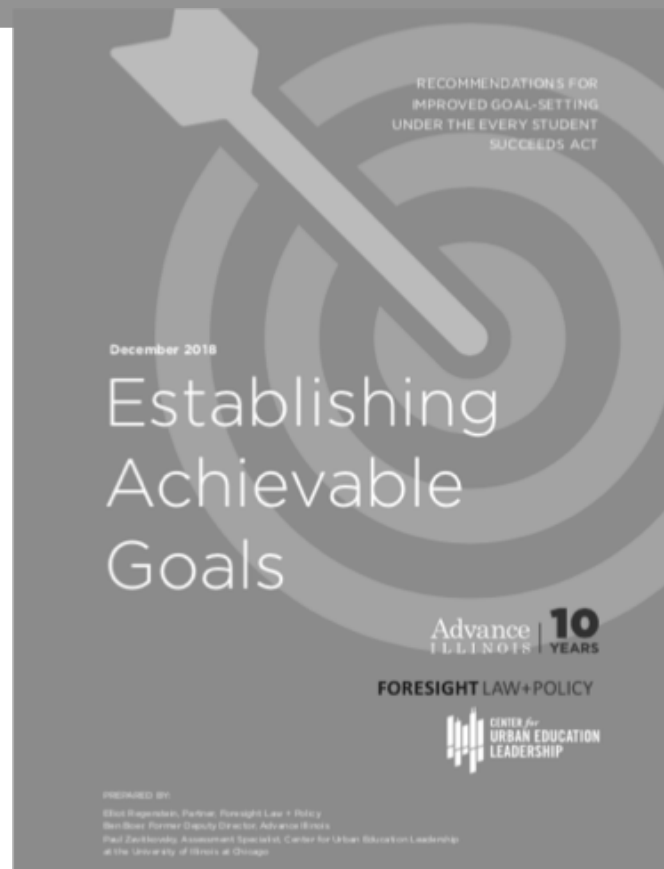
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How Effective Is Your School District? A New Measure Shows Where Students Learn the Most

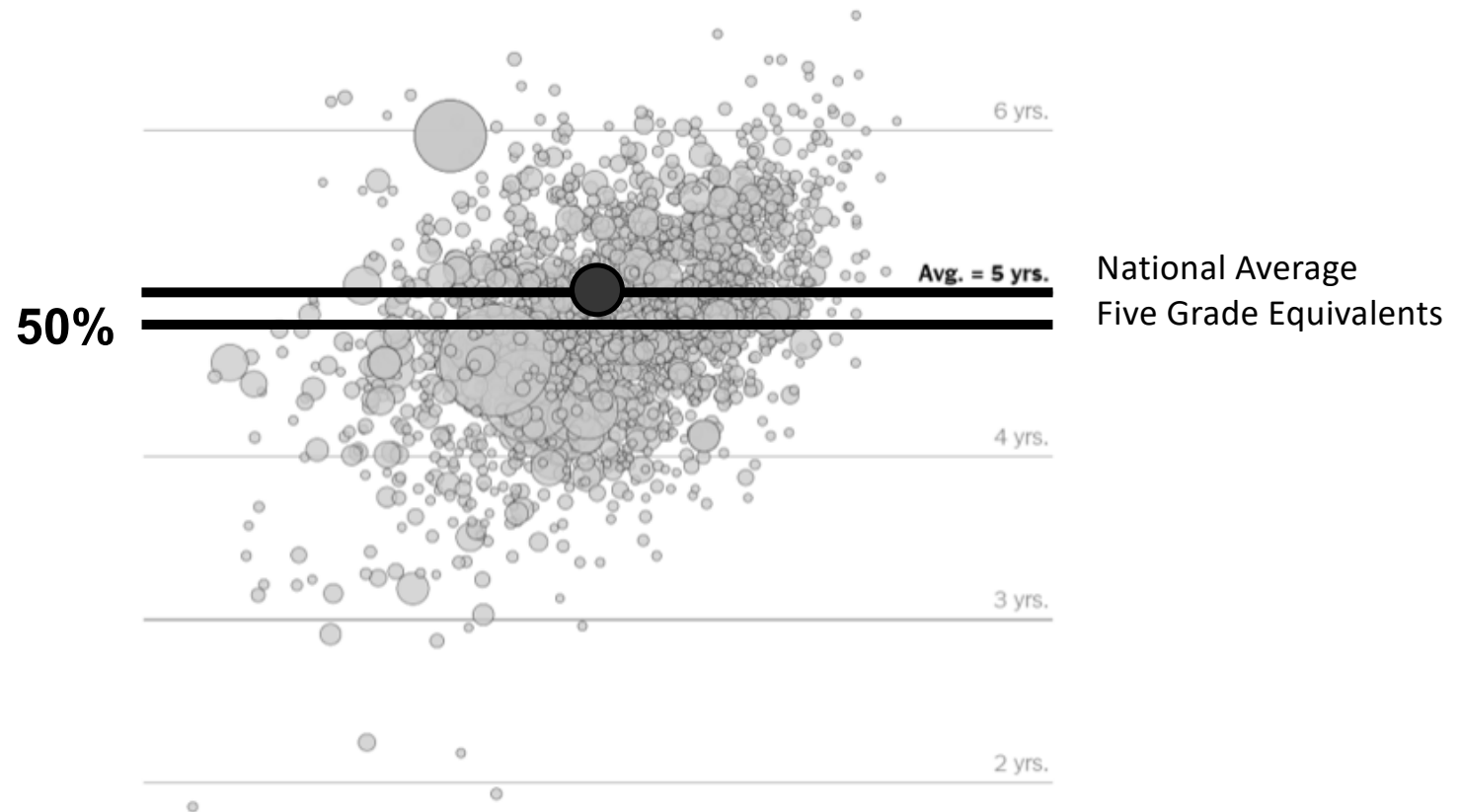
By EMILY BADGER and KEVIN QUEALY DEC. 5, 2017



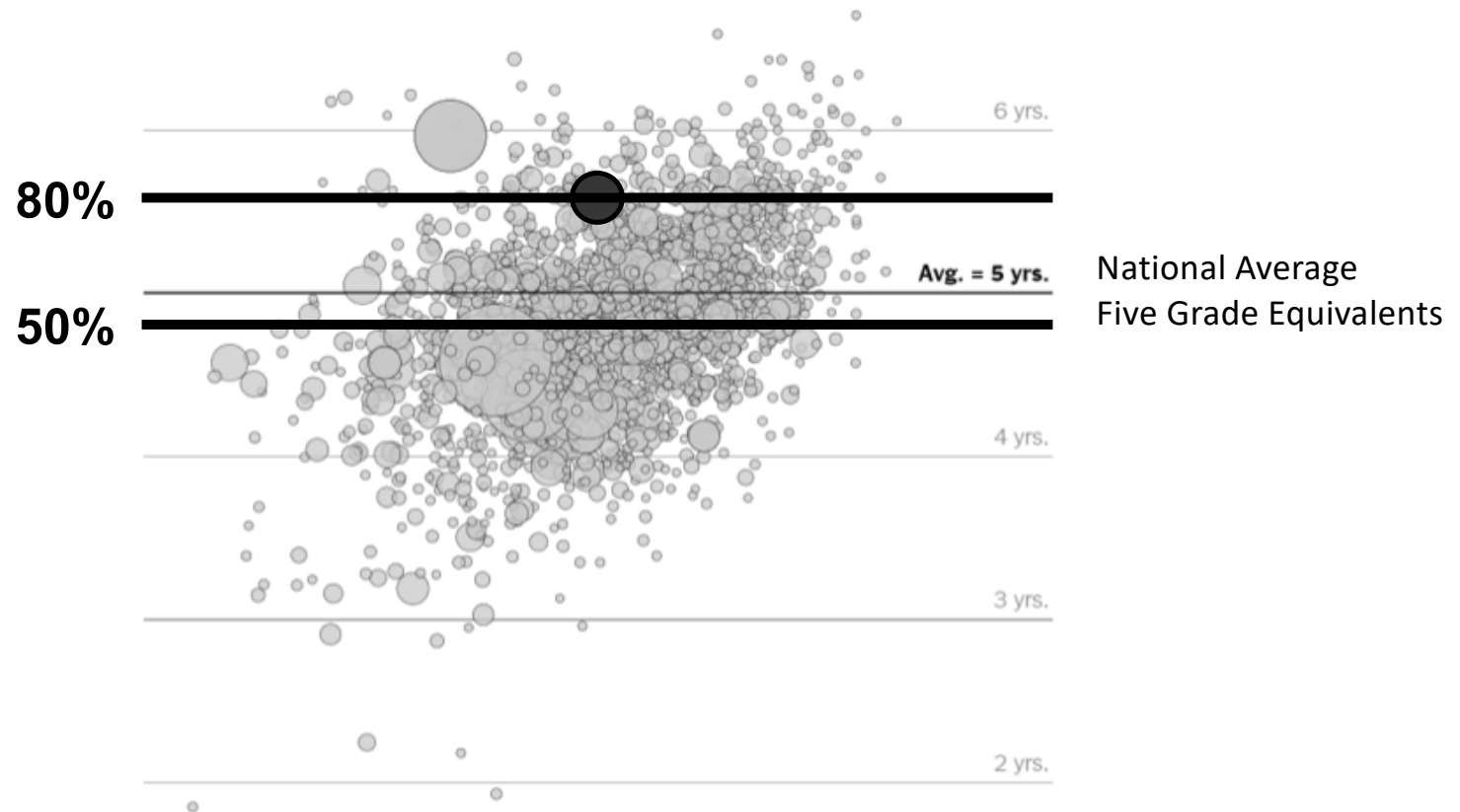
Establishing Achievable Goals



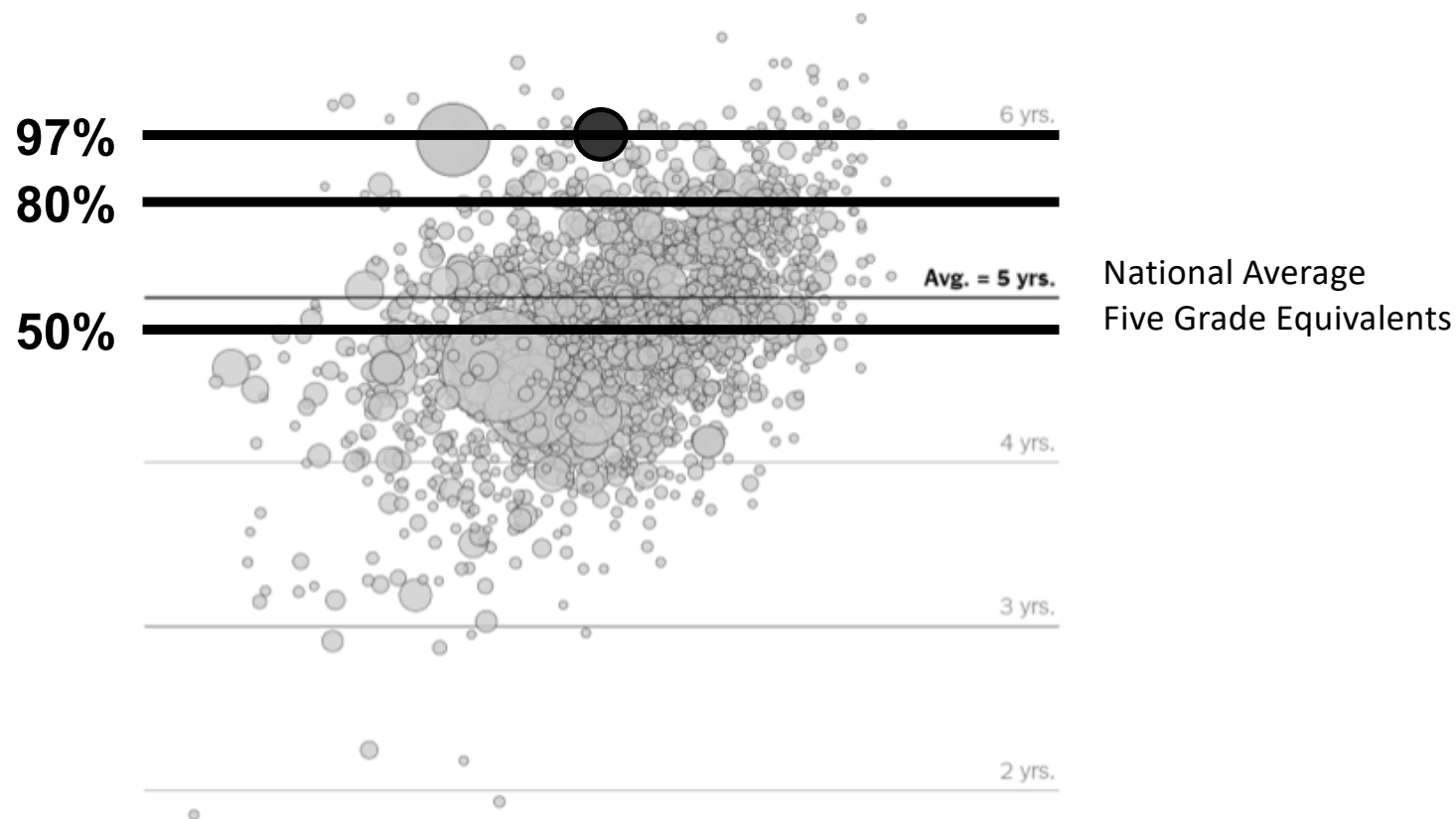
5 Year Academic Growth



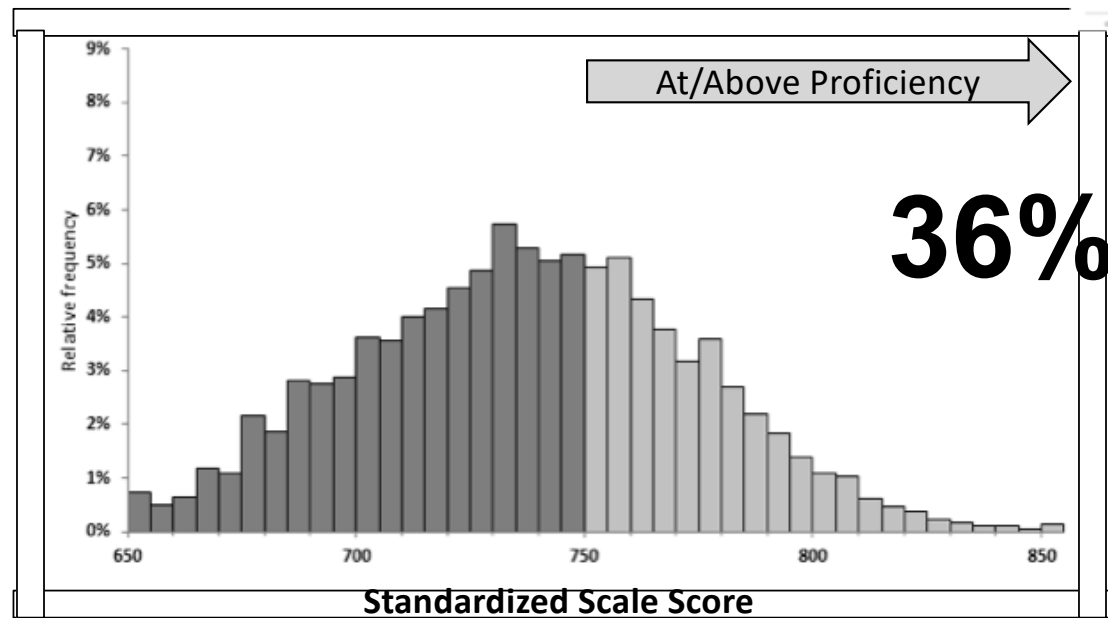
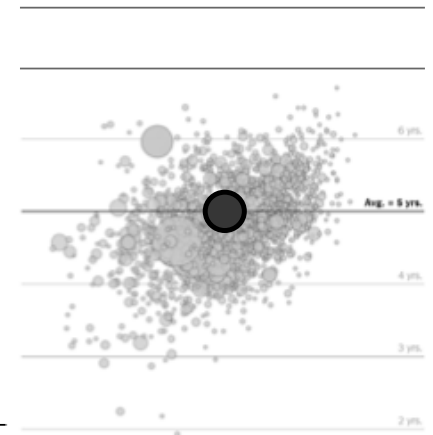
5 Year Academic Growth



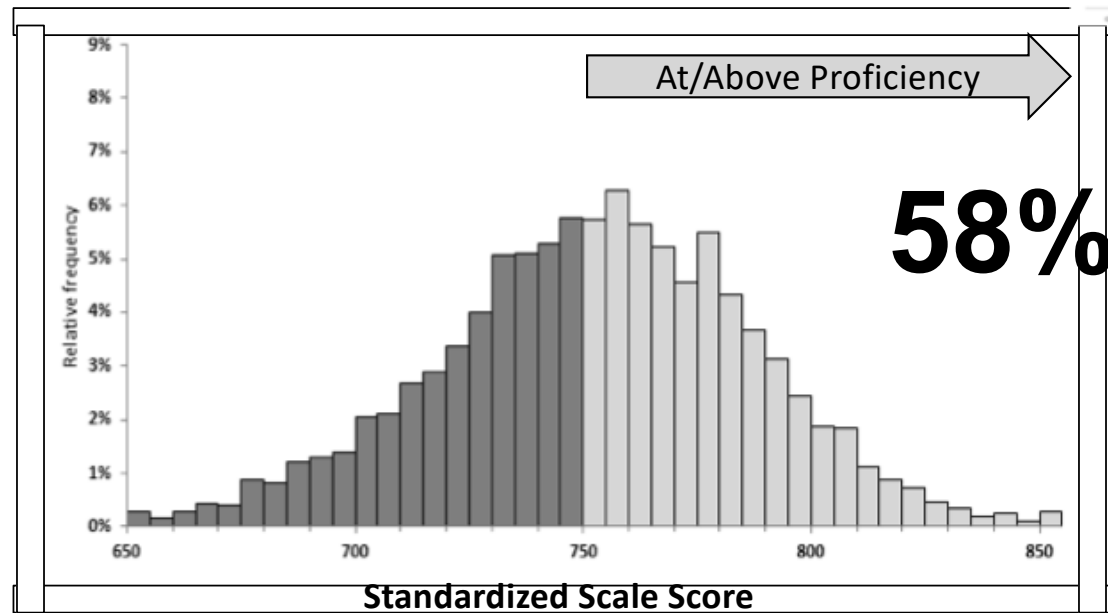
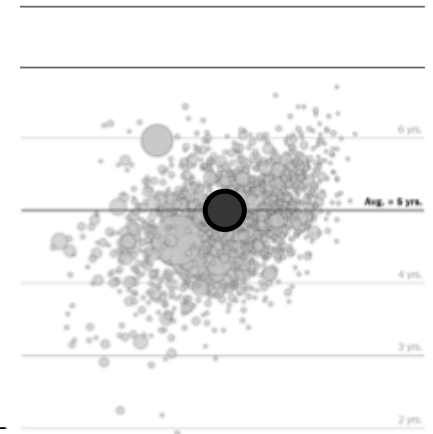
5 Year Academic Growth



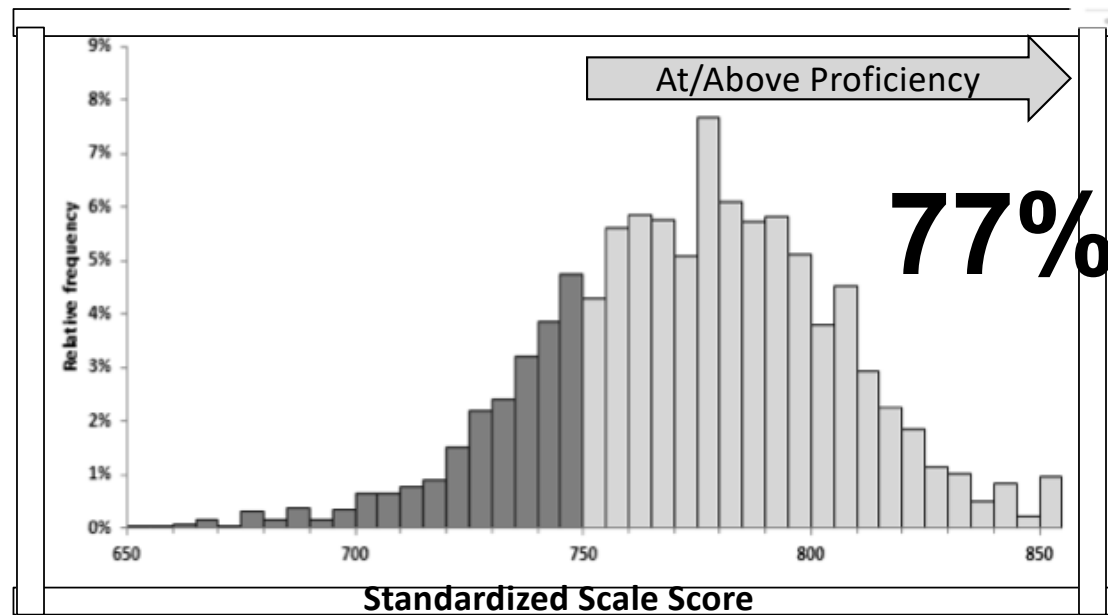
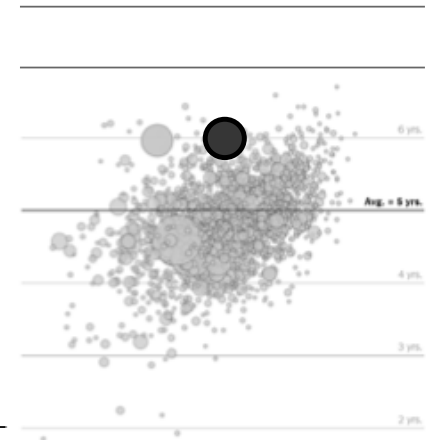
Example – Expected Academic Achievement



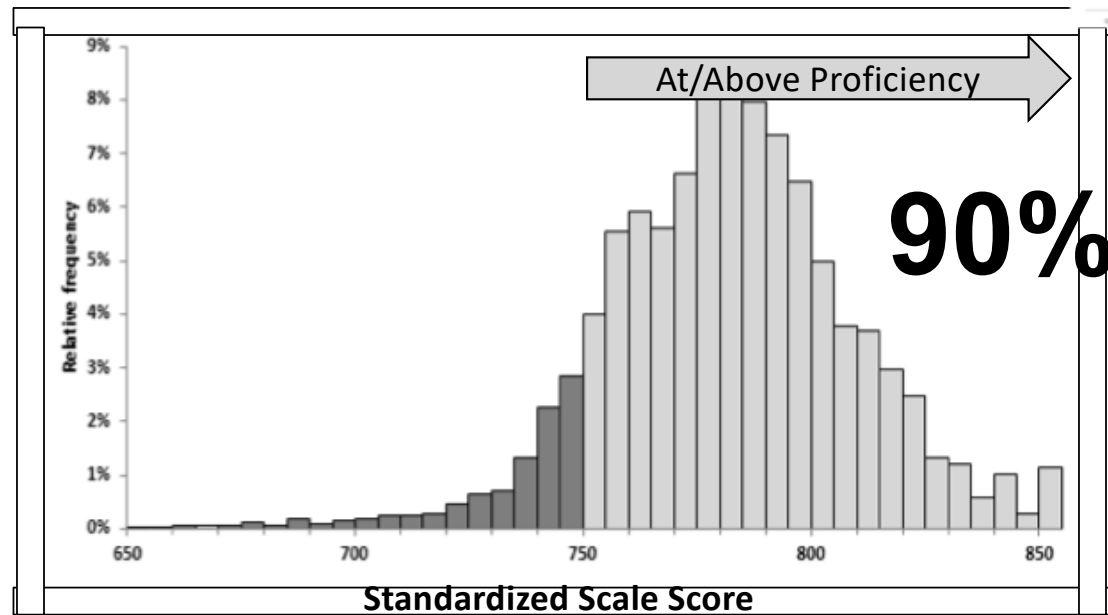
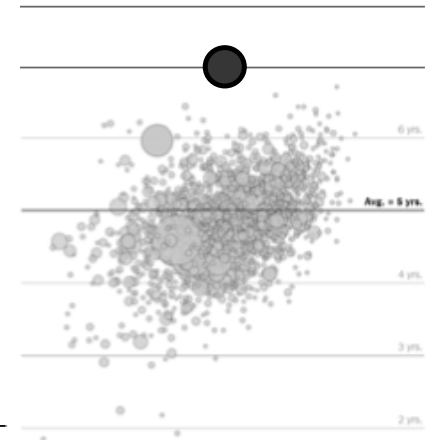
With One Additional Year of Achievement Growth



With Two Additional Years of Achievement Growth



With Three Additional Years of Achievement Growth



Education – 2020 – The Big Question

If you were building the system today,
would you start at age 5???

Closing Thoughts



Importance of Early Childhood Education



Importance of Early Learning



Importance of Early Childhood Development



Importance of Early Experience



Relationships are the “Active Ingredients” of Early Experience



Relationships

Relationships

Relationships



Secure Relationships

The impact of secure relationships is not just emotional or psychological

- It is biochemical

Any time you see resilient outcomes, there was at least one supportive relationship

- Kids don't become resilient alone

Policy and Program Opportunity

- Home visiting programs
- Universal pre-K (3 and/or 4 year-olds)
- Quality vs. Quantity Child Care
- Expanded subsidies and tax credits for ECE
- Intensive focus on 0-3 (Early Head Start)
- Pay parity between Child Care and Schools
- Infant mental health services
- Paid parental leave
- Universal basic income

Closing Thoughts

- Invest in in early experience, not just early education
 - Be comprehensive (0-5)
- Need to build from prenatal/birth up
 - Not from K-12 down

1971

"All the News
That's Fit to Print"

The New York Times

LATE CITY EDITION

Weather: Cloudy and mild with rain likely today, tonight, tomorrow. Temp. range: today 49-59; Thursday 40-49. Full U.S. report on Page 86.

VOLUME 115, NUMBER 593

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PRESIDENT VETOES CHILD CARE PLAN AS IRRESPONSIBLE

He Tries to Unworkable
and Voices Fear It Would
Weaken Role of Family

CONGRESS FIGHT VOWED

But Overriding of Nixon's
Step Is Doubtful—Javits
May Seek Compromise

By JACK ROSENTHAL

Special to The New York Times
WASHINGTON, Dec. 9—In a

Pay Board Approves Rise Of 46% Over 42 Months

Railroad Signalmen's Contract Backed—
Big Part Now in Effect, and Officials
Say Exception to Rule Is Justified

By WALTER RUGABER

Special to The New York Times

WASHINGTON, Dec. 9—The Pay Board approved today a contract under which the railroad signalmen would receive wage increases far exceeding its general standard of 5.5 per cent annually.

The agreement calls for raises of about 46 per cent over 42 months beginning in January.

Text of Pay Board statement
appears on Page 27.

Nov. 1970. Its precise impact

gress, the Pay Board said, and raises of 2.6 per cent last January and 2.9 per cent last April were recommended by a Presidential emergency board.

The board approved another step, calling for 5 per cent more pay last Oct. 1. All these amounts are included in a contract signed by the union, with about 10,000 members, and the railroads on Nov. 16—after the 90-day freeze had ended.

It is therefore considered as

LINDSAY IMPOSES CONTRACT CURBS ON CONSTRUCTION

Awards Halted Until March
as City Nears Exhaustion
of Borrowing Capacity

By MARTIN TOLCHIN

Mayor Lindsay imposed what he termed a "partial moratorium" on the awarding of new construction contracts yesterday as the City Planning Commission proposed a \$2.3-billion capital budget for 1972-73.

"Only the most urgent and fully ready new projects will be allowed to start construction during the moratorium," Mr.

INDIA REPORTS FOE IN ROUT IN EAST AS ENCIRCLEMENT OF DACCA GAINS; BOMBS RAZE AN ORPHANAGE THERE



PAKISTAN REPLIES

Insists Force Holds On
in East and Denies
Loss of Big Cities

By SYDNEY H. SCHANBERG

Special to The New York Times
CALCUTTA, India, Dec. 9—



1,100 Days

Thank You



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