



Understanding and Addressing Achievement Gaps:

Assessment and Research in the Accountability Era

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The Systemic View

- Tests should be one element in a comprehensive and valid system of educational improvement
- No point in testing without action
- Tests are closely linked to educational and social values
- Tests can help reduce achievement gaps if properly uses

**“Inequality is like an
unwanted guest that comes
early and stays late...”**

Source: Barton, P. E. (2003). *Parsing the Achievement Gap*. Princeton, NJ: Educational Testing Service

What is a “gap”?

- *Group compared to group*
 - ethnic*
 - racial*
 - language*
 - gender*
 - socioeconomic*
- *Individual compared to a standard*

Gaps in what?

- Opportunity
- Attainment
- Progress

- Test scores
- Grades
- Diplomas and degrees

Where do gaps exist?

- Across subject areas
 - Larger in math than in reading
- Across indicators
 - Grades, test scores, attainments
- Across student ages
- Persistent and stable across time
- Larger for males than for females
 - Across all ethnic groups

Table 1: Correlates of Achievement, and Gaps

Correlates	Are There Gaps Between Minority and Majority Student Populations?	Are There Gaps Between Students from Low Income Families and Higher Income Families?
School: Rigor of Curriculum Teacher Preparation Teacher Experience and Attendance Class Size Technology-Assisted Instruction School Safety	Yes Yes Yes Yes Yes Yes	Not Available Yes Yes No* Yes Yes
Before and Beyond School: Parent Participation Student Mobility Birthweight Lead Poisoning Hunger and Nutrition Reading to Young Children Television Watching Parent Availability	Yes Yes Yes Yes Yes Yes Yes Yes	Yes Yes Not Available Yes Yes Yes Yes Yes

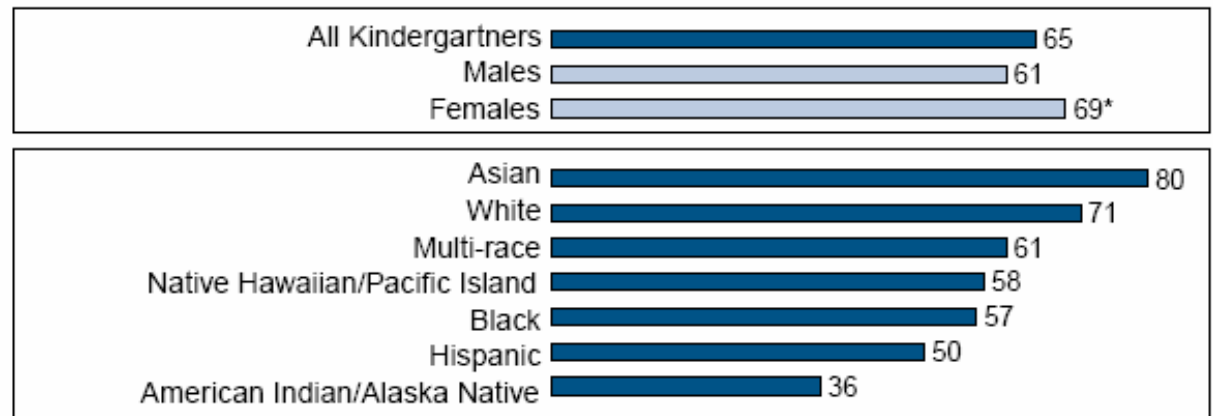
Table 2: Locus of factors related to school achievement

Early Development	The School Environment	Home Learning Environment
<p>Lead poisoning</p> <p>Weight at birth</p> <p>Hunger and nutrition</p>	<p>Rigor of the school curriculum</p> <p>Teacher preparation</p> <p>Teacher experience and attendance</p> <p>Class size</p> <p>Availability of appropriate classroom technology</p> <p>School safety</p>	<p>Reading to young children</p> <p>TV watching</p> <p>Parent availability and support</p> <p>Student mobility</p> <p>Parent participation</p>

*Evidence of disparities in opportunity and
gaps in attainments is abundant*

Gaps in attainment show up early

Figure 1: Percentage of Kindergartners Who Can Recognize Letters of the Alphabet, by Gender and Race/Ethnicity



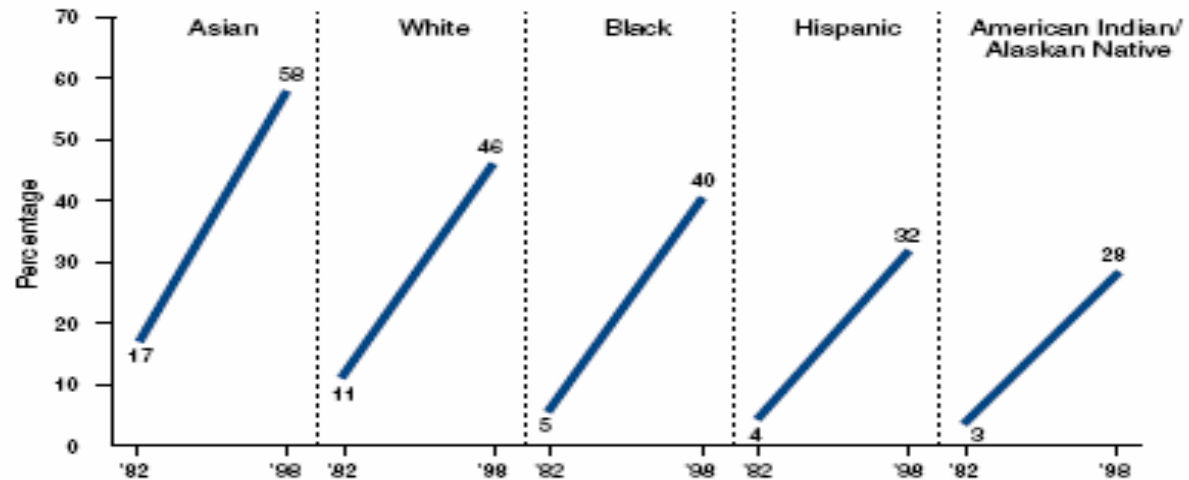
Source: Coley, R. J. (2002). *An uneven start: Indicators of inequality in school readiness*. Princeton, NJ: Educational Testing Service. Retrieval from: <http://www.ets.org/research/dload/Unevenstart.pdf>

Inequality in curricular rigor

Rigor of Curriculum

Percentage of High School Graduates with Substantial Credits in Academic Courses, 1982 and 1998

Percentage with four years of English, three years each of social studies and mathematics, and two years of a foreign language



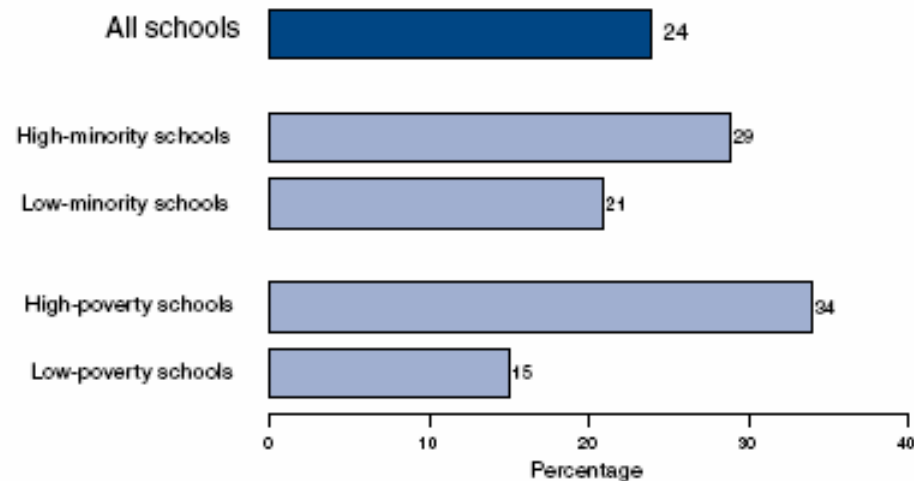
Source: National Center for Education Statistics, *Digest of Education Statistics 2001*, Table 143. Original data from National Center for Education Statistics, *High School Transcript Study*.

Retrieval from: <http://www.ets.org/research/pic/parsing.pdf>

Disparities in teacher quality

Teacher Preparation

Percentage of Secondary-level Core Academic Courses Taught by a Teacher Without at Least a Minor in the Subject, 1999-2000



Note: High-minority schools contain 50 percent or more minority students; low-minority schools contain 15 percent or fewer minority students. High-poverty schools contain 50 percent or more poor students; low-poverty schools contain 15 percent or fewer poor students.

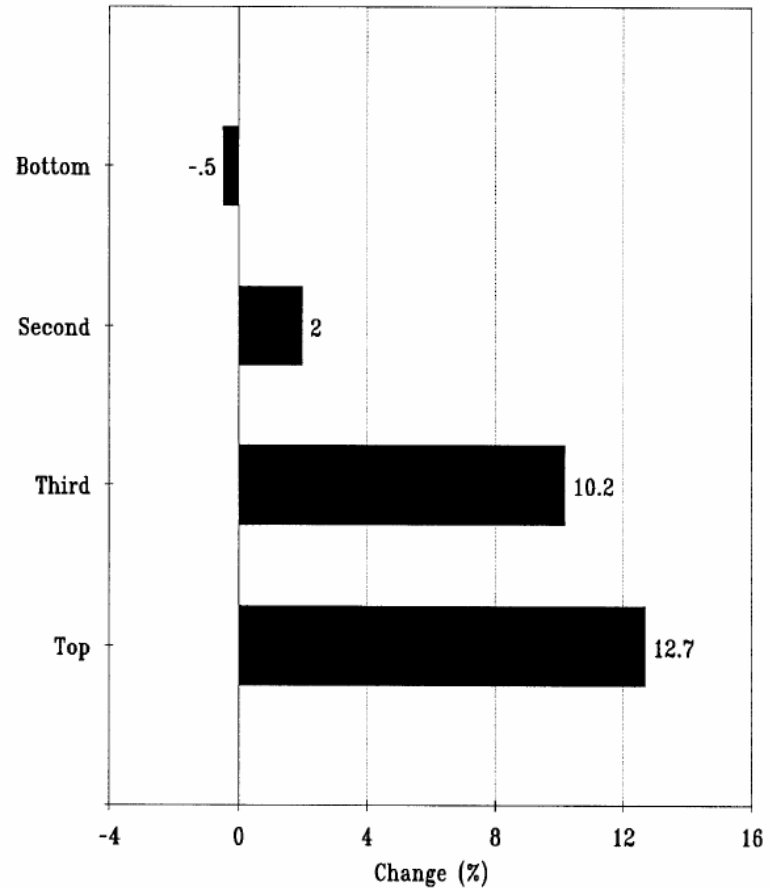
Source: Craig D. Jerald (data analysis by Richard M. Ingersoll), *All Talk, No Action: Putting an End to Out-of-Field Teaching*, Education Trust, August 2002

Retrievable from: <http://www.ets.org/research/pic/parsing.pdf>



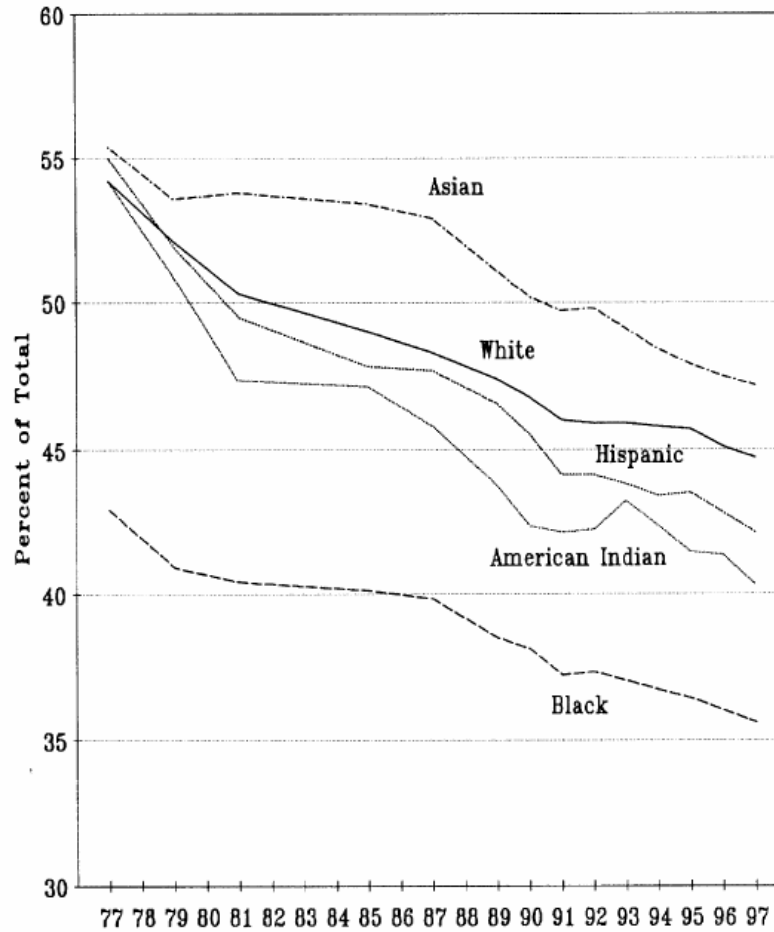
Family income is an important issue...

Change in Estimated Bachelor's Degree Attainment Rate
by Age 24 by Family Income Quartile
1970-72 to 2000-02



Gender also plays an important role...

Bachelor's Degrees Awarded to Males by Race/Ethnicity 1977 to 1997



Source: Postsecondary Education Opportunity, 2000.

<http://www.postsecondary.org/archives/Reports/NACACMenGone10600.pdf>

Doing the math...

*For every 100 students who start kindergarten,
how many students finish high school?*

- White 93
- African American 87
- Latino 63

Source: Adapted from The Education Trust and *The Condition of Education 2002*

Doing the math...

*For every 100 students who start kindergarten,
how many students finish some college?*

- White 65
- African American 50
- Latino 32

Source: Adapted from The Education Trust and *The Condition of Education 2002*

Doing the math...

For every 100 students who start kindergarten, how many students attain a bachelor's degree?

- White 33
- African American 18
- Latino 11

Source: Adapted from The Education Trust and *The Condition of Education 2002*

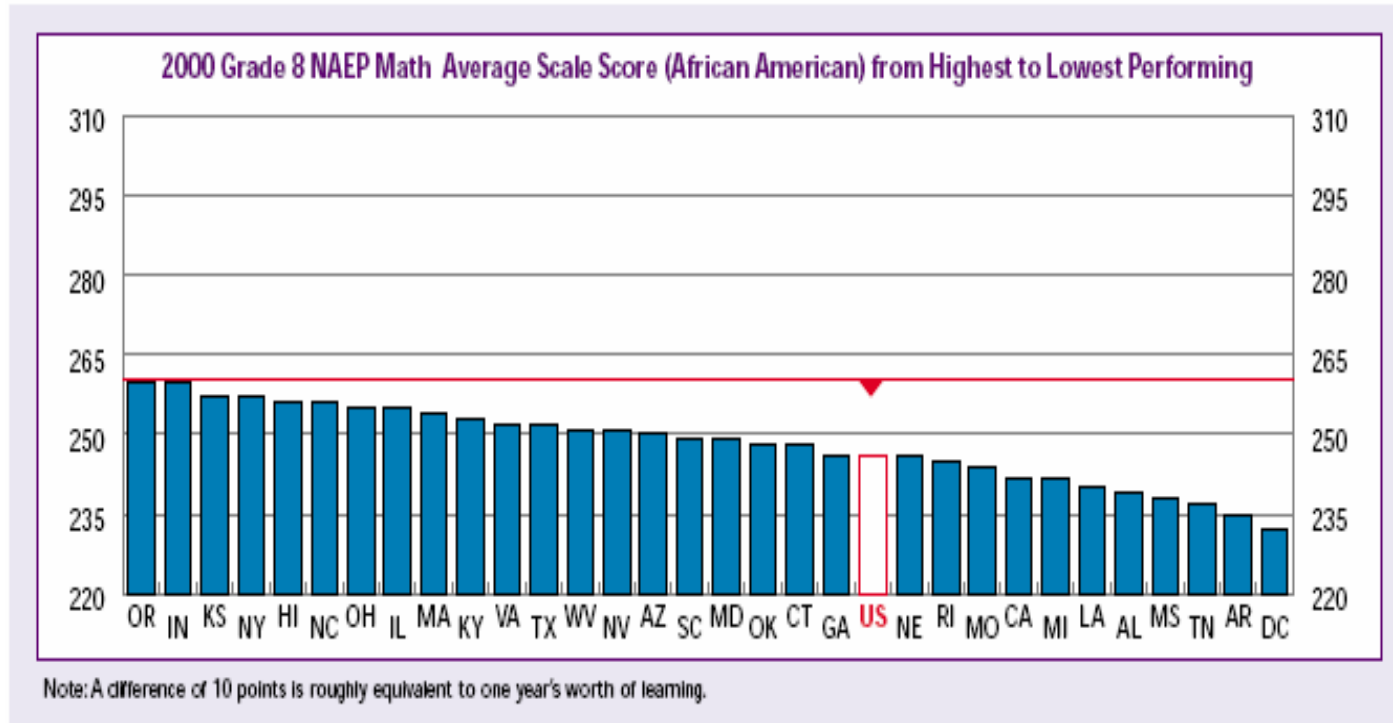
**“Inequality is like an unwanted
guest that comes early and
stays late...”**

*How can assessment and research
data help?*

*Despite this sorry picture, there is evidence
that today's gaps are not necessarily a
given...*

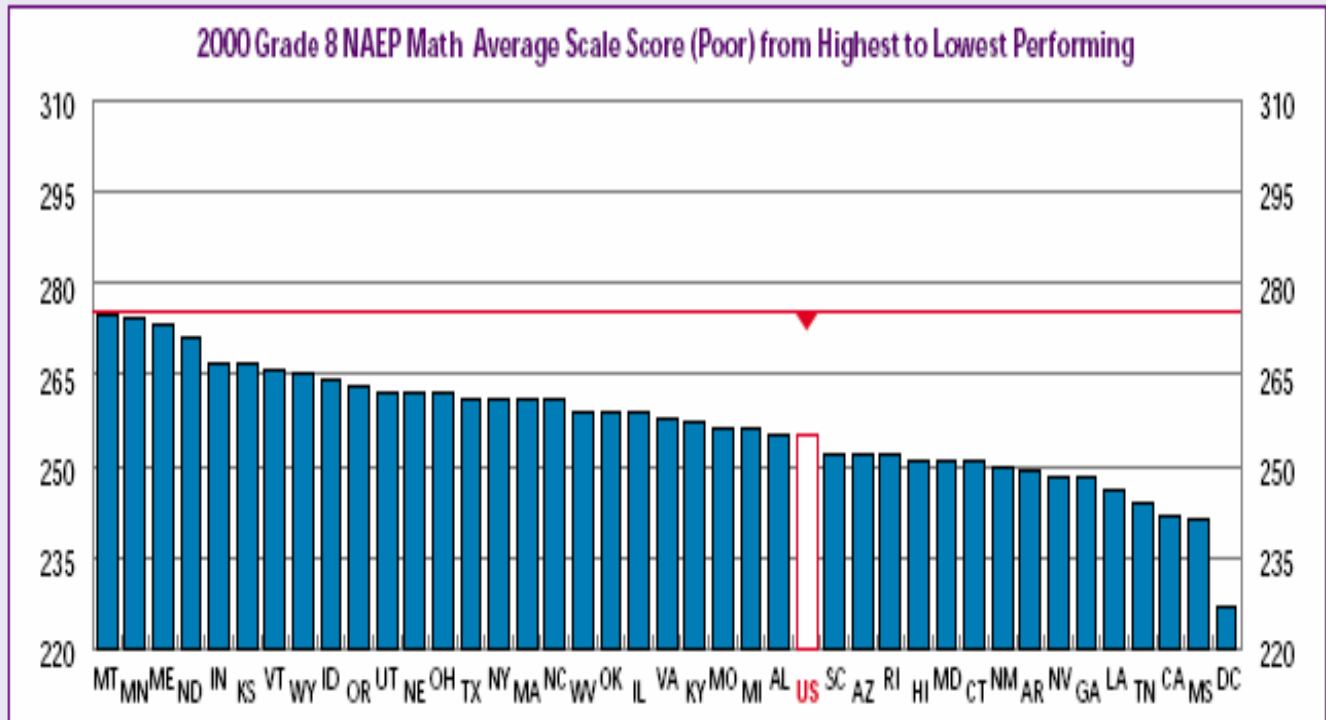
Variation in NAEP performance across states

(Gr. 8 math, African American students)



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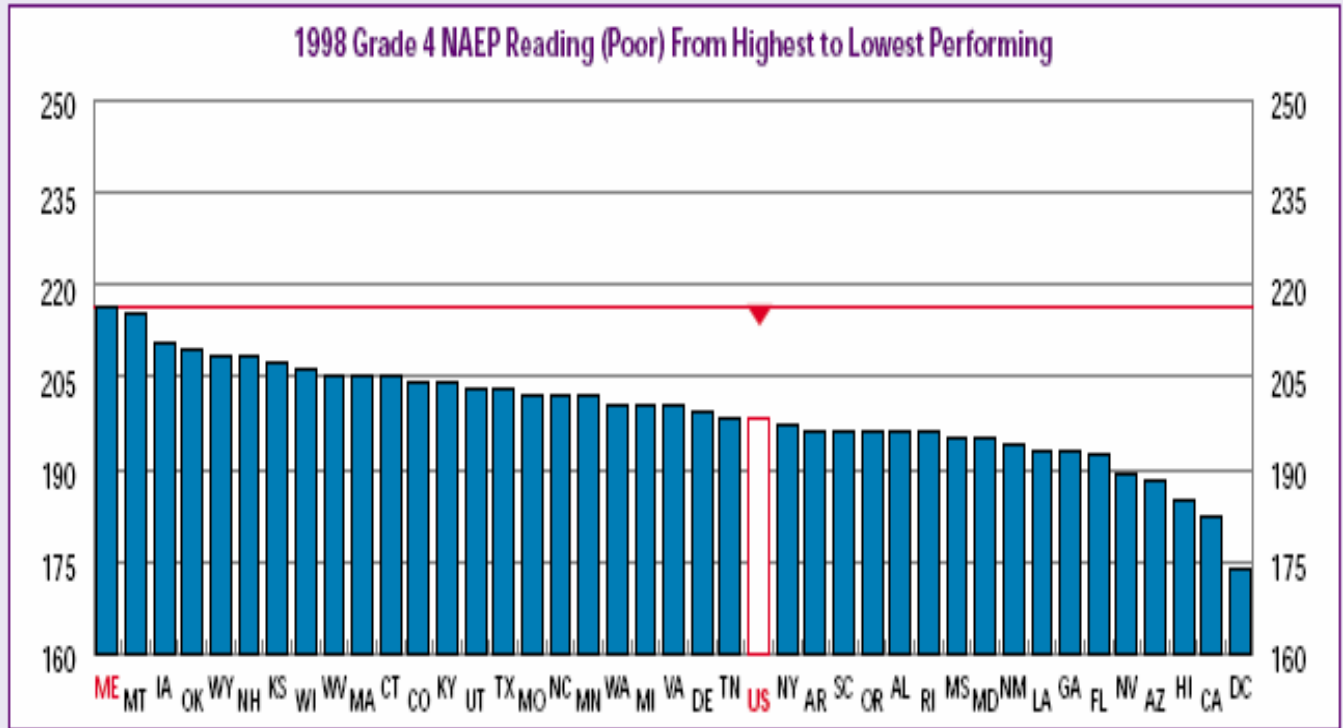
(Gr. 8 math, students in poverty)



Note: A difference of 10 points is roughly equivalent to one year's worth of learning.

Variation in NAEP performance across states

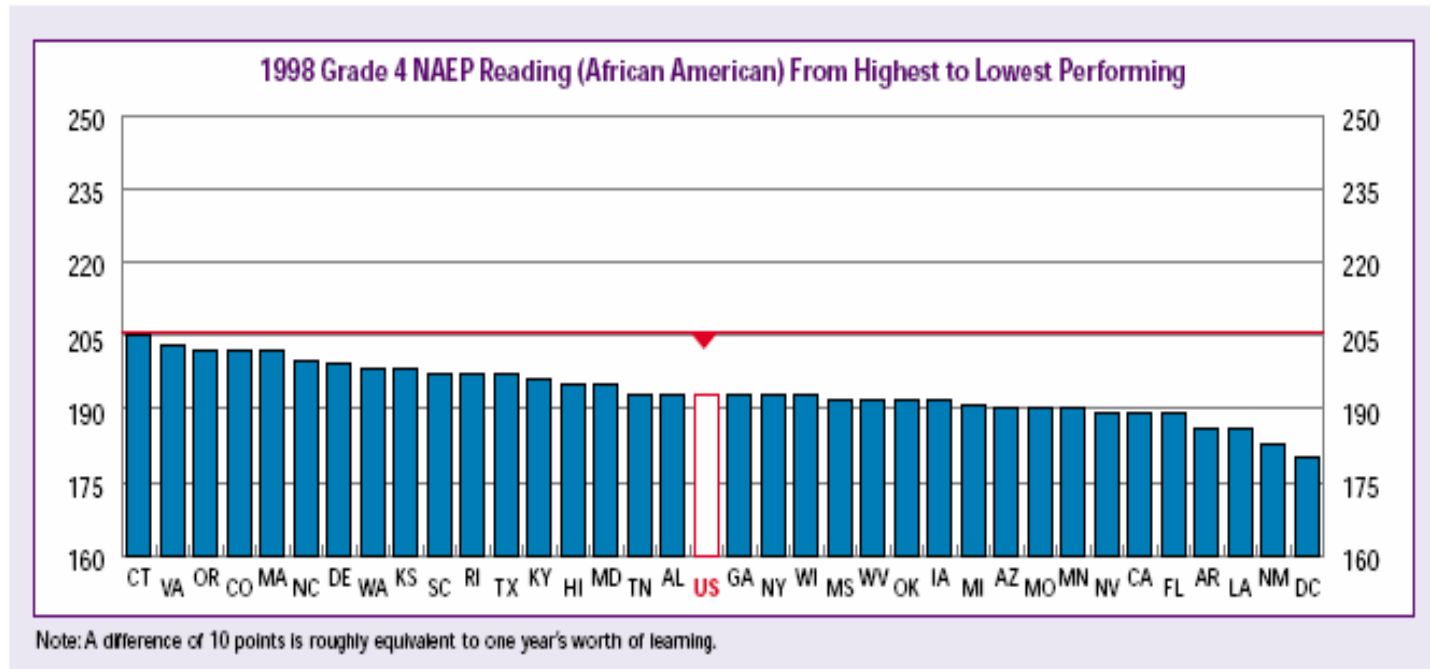
(Gr. 4 reading, students in poverty)



Note: A difference of 10 points is roughly equivalent to one year's worth of learning.

Variation in NAEP performance across states

(Gr. 4 reading, African American students)



Data like these can be helpful

- In understanding more specifically where the problems are and how severe they are
- In identifying “success stories” to understand what works
- In reminding us that *gaps can be narrowed or eliminated*

What kinds of interventions have been shown to work?

- Focus on opportunity to learn
- Starting in early childhood
- Improving teacher quality
- Instructional improvements
- Feedback to students

NCLB as an intervention

- **Is NCLB good for students?**
- **Is it a promising way to close the gaps?**

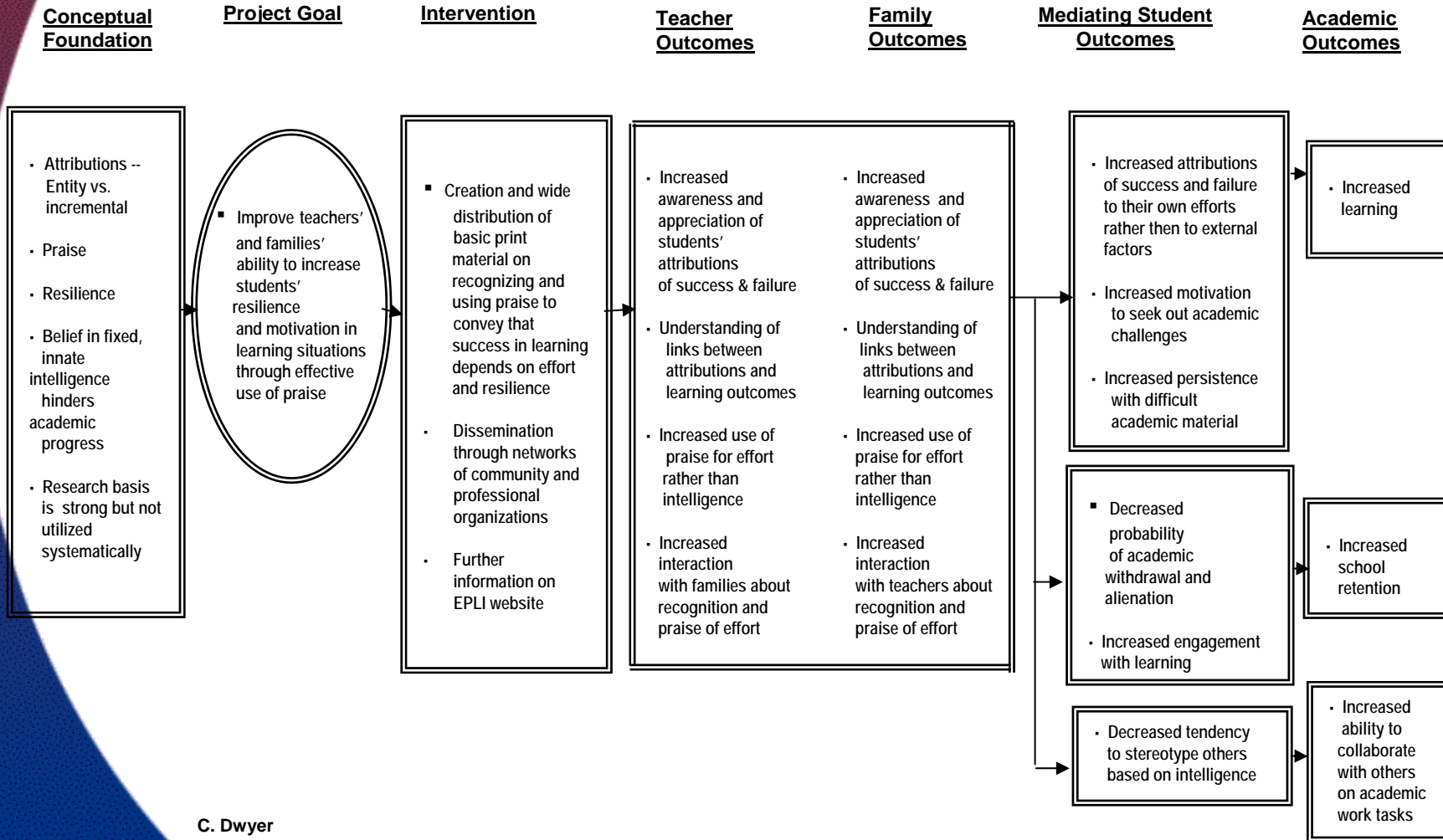
NCLB as an intervention...in progress

- Provides a good way to focus attention on learning and instruction
- Disaggregation of data is important and useful, if done logically and systematically
- Not yet fully implemented instructionally
- Not yet fully aligned (standards, assessment, instruction, teacher professional development)
- To be determined...does the political will exist and can public attention be sustained?

Important findings from social and cognitive psychology

- Importance of *expectations* that all children can learn, and teachers who believe that they can make this happen
- Implicit theories of intelligence
- Understanding of *developed abilities* by educators and families
- Focus on enriched learning environments rather than remediation or student deficits
- Importance of formative assessment, accurate and timely feedback

HELPING STUDENTS HELP THEMSELVES THROUGH EFFECTIVE PRAISE



Formative assessment

- Using assessment to guide learning as it occurs can be very effective in producing learning gains (Black & Wiliam, 1998; National Research Council, 1999).
- Students benefit from challenges and enriched curricula
- Teachers need practical tools to do this

Student Evaluation Standards

Facilitator's Guide

Joint Committee on Standards for Educational Evaluation: *Student Evaluation Standards*

- Propriety
- Utility
- Feasibility
- Accuracy

<http://www.wmich.edu/evalctr/jc/>