10 Years of Quality Counts

- Launched in 1997
- Focus on state pursuit of standards-based education
- Tracks trends in student achievement and state policy
In the 10th Edition

- Analysis of NAEP achievement trends
- EPE Research Center study of link between state policy and achievement
- State case studies
- Commentaries
- State policy report cards
NAEP Achievement Analysis

- Analysis conducted by ETS
- National and state trends 1992-2005
  - Math and Reading
  - Grades 4 and 8
- Detailed results in *Quality Counts*
  - Trends over time
  - State vs. Nation comparisons
  - Achievement gaps
The Good News in Math

- Significant national improvement in NAEP math between 1992 and 2005
  - Increase of 18.5 points in 4th grade
  - Increase of 10.7 points in 8th grade
- Gains found across all states
- Improvements at both the “basic” and “proficient” achievement levels
Improvements in seven states consistently outpaced the nation as a whole

- Arkansas
- Delaware
- Louisiana
- Mississippi
- North Carolina
- South Carolina
- Texas

Source: ETS analysis of NAEP 1992 and 2005 Math Assessments
The most dramatic improvements are found for younger students:

- 4th grade math: **Black + 27.7 points**  **Hispanic + 24.2 points**

Less Progress in Reading

- Little improvement in NAEP reading scores nationwide since 1992:
  - +2 points at grades 4 and 8

But ... 

- Gains have been stronger for black, Hispanic, and low-income students, especially at 4th grade:
  - about 2/3 of a grade level
Standouts in Reading

While some states have outpaced the nation as a whole …

Greater gains than nation at
- Grades 4 and 8
  - Delaware
- Grade 4 only
  - Florida
  - Maryland
  - New York
- Grade 8 only:
  - Massachusetts
  - Wyoming

SOURCE: ETS analysis of NAEP 1992 and 2005 Reading Assessments

other states have seen significant declines in reading since 1992.
Achievement Gaps Persist

Even in 4th grade math, which has seen great progress in the past decade, significant achievement gaps existed in 2005 between poor and non-poor students in all states.

SOURCE: ETS analysis of NAEP 2005 Math Assessments
Quality Counts 2006 profiles several states that made notable progress over the past decade.

Themes from case studies:
- Reforms bring coherence
- Early adopters that held the course
- Gains for low-performing groups
- Challenges persist
Making the Connection

- Special Study by the EPE Research Center
- Achievement Trends
- State Policy Trends
- Policy-Achievement Links
Achievement Trends

National Trends in NAEP Achievement


Math 8
Reading 8
Math 4
Reading 4

NAEP Scale Score (0-500)
4th Grade Reading - U.S.
Reading 4 - State Standouts

NAEP Reading 4th Grade Scale Score


- Delaware
- Iowa
- Maryland
- Florida
- U.S.
- New Mexico
- Oklahoma
- Florida
Standouts - Delaware and Oklahoma

NAEP Reading 4th Grade Scale Score

- Delaware
- Oklahoma
- U.S.
- New Mexico
- Florida
- Maryland
- Iowa
- Delaware
- Oklahoma
Standouts - Florida and Iowa
Tracking State Policies

- 2 goals for tracking policies
  - Consistent indicators over time
  - Key elements of standards-based reform

- Research Center study departs from the traditional *Quality Counts* organization
  - Indicators have changed over time
  - Grading rules have also changed
Policy Indicators

Study tracks 24 individual indicators in 4 categories:
- Academic Content Standards
- Assessments
- Accountability
- Efforts to Improve Teacher Quality

State implementation scored on a 10-point scale:
- In each of the 4 categories
- Averaged across categories for total score

Source of policy data:
- Quality Counts report 1997-2006
- Supplemented with reliable outside sources
A Decade of Policymaking

Trends in Standards-Based Policy Implementation

Policy Implementation Score (0-10)

- Standards
- Assessment
- Teacher Quality
- Accountability

Years:
- 1997
- 1998
- 1999
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
States Take Different Paths

Selected State Trends for Academic-Standards Policies

Policy Implementation Score (0-10)

- Massachusetts
- Minnesota
- National Average
- Montana
- Iowa

Year: 1997 to 2006
Parallel Trends?

National Trends in NAEP Achievement and Policy

- Math 8
- Reading 8
- Math 4
- Reading 4
- Total Policy Score

NAEP Scale Score (0-500)
Policy Implementation Score (0-10)

Putting the Pieces Together

- A very brief (and non-technical) primer on regression analysis

- Policy Implementation (predictor) $\rightarrow$ Achievement Gains (outcome) +/- ?

- Confounding Factors (control variables)
The Regression Models

- 4 Separate analyses: math and reading, grades 4 and 8
- Outcome: **Change** in Average State Achievement
  - NAEP Reading (1998-2005)
- Predictor: Policy Implementation (**change** 1997-2005)
  - Total policy score
  - Scores for sub-categories (standards, assessment, accountability, teacher quality)
- Control Variables
  - Prior achievement levels
  - Prior policy levels
- What about school finance indicators?
All research has strengths and weaknesses

Strengths of this study
- State policy data – multiple measures, detailed, consistent over time
- Solid regression framework - changes-on-changes, controls
- Multiple achievement measures – 4 NAEP outcomes

Limitations of the study
- Small sample - the states (some missing)
- NAEP limitations - accommodations changes, not state-aligned
- Policy analysis is tricky

So, be cautious about inferring causal effects from statistical "effects"
A First Look

- Regression models estimate effects of total policy score

**Impacts of Standards-Based Policies on NAEP Achievement**

- **Math 8**
- **Math 4**
- **Reading 8**
- **Reading 4**

**Predicted Change in Achievement** (NAEP scale score points)

**Policy Implementation Score (0-10)**
A Closer Look

- Deconstruct total policy score into 4 separate components
- Findings same across all 4 NAEP outcomes (4th grade math shown here)
A Refined Analysis

- Remove Teacher Quality policies from overall state policy score
- Repeat analysis using revised policy score (with standards, assessment, accountability)

![Graph showing the impacts of standards-based policies on NAEP achievement. The graph plots predicted change in achievement (NAEP scale score points) against policy implementation score (0-10). The lines represent different subjects: Math 8, Math 4, Reading 4, and Reading 8. The graph indicates a positive correlation between policy implementation score and predicted change in achievement.](image-url)
Conclusions from Analysis

- Evidence that standards-based state policy has had a positive influence on student achievement
  - Effects found for: Standards, Assessments, Accountability policy areas
  - Math: effects statistically at both grade levels
  - Reading: modest positive effects, but not significant

- Policies to Improve Teacher Quality
  - Policies negatively related to achievement gains
  - Does NOT mean that teacher quality isn't important
  - Reasons for pattern not clear

- The study is not definitive but can inform research and policymaking
State of the States 2006

- Standards and accountability
- Efforts to improve teacher quality
- School climate
- Resource equity
The 2006 Policy Survey

- Each year, the EPE Research Center surveys the 50 states and District of Columbia
- Meticulous administration and vetting of surveys
  - State respondents complete survey
    - Answers to questions about educational policies
    - Supporting documentation for each response
  - EPE Research Center evaluates responses
  - States review final answers
- The annual survey is supplemented with state indicators from reliable outside sources.
Almost all states have content standards in English, math, science, and history.

47 states and the District of Columbia use tests aligned with state standards in English and math.

37 states offer assistance to all low-performing schools.

28 states sanction all low-performing schools.

8 States Earn A’s

- Louisiana
- New York
- Massachusetts
- South Carolina

1 State Earns an F

- Iowa

Indiana
Florida
New Mexico
West Virginia
States have made much progress implementing standards and aligned assessments. But there has been less change in other areas during the past decade.

SOURCE: Editorial Projects in Education Research Center, 2006
Efforts to Improve Teacher Quality 2006

- 42 states and the District of Columbia require high school teachers to pass subject-matter tests for an initial license.
- 33 states require prospective teachers to have a major in the subjects they will teach.
- 47 states and the District identify low-performing teacher education programs.

**Average Grade:**

<table>
<thead>
<tr>
<th>Grade</th>
<th>States/Educational Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td>C+</td>
<td>Louisiana, South Carolina</td>
</tr>
</tbody>
</table>

**2 States Earn A’s**

<table>
<thead>
<tr>
<th>Louisiana</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Carolina</td>
</tr>
</tbody>
</table>

**6 States and DC Earn D’s**

<table>
<thead>
<tr>
<th>Oregon</th>
<th>Michigan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maine</td>
<td>Arizona</td>
</tr>
<tr>
<td>Dist. of Columbia</td>
<td>Alaska</td>
</tr>
<tr>
<td>Idaho</td>
<td>Dist. of Columbia</td>
</tr>
</tbody>
</table>

**States that received D’s:**

- Oregon
- Maine
- Michigan
- Arizona
- Alaska
- Idaho

**States that received A’s:**

- Louisiana
- South Carolina
Subject-matter expertise has become a focus of efforts to improve teacher quality. States have been less active in promoting pedagogical skills and supporting mentoring.
School Climate 2006

- Questions on School Climate
  - cover a wide variety of topics, and
  - have changed considerably over time
- 33 states have a class-size-reduction program
- States often include climate information on school report cards
  - 26 report school safety information
  - 10 report parent involvement
  - 25 report class size or student-teacher ratio

<table>
<thead>
<tr>
<th>8 States Earn B’s</th>
<th>3 States Earn D+’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delaware</td>
<td>Mississippi</td>
</tr>
<tr>
<td>Colorado</td>
<td>Maryland</td>
</tr>
<tr>
<td>Maine</td>
<td>Rhode Island</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>Alaska</td>
</tr>
<tr>
<td></td>
<td>Missouri</td>
</tr>
</tbody>
</table>

Average Grade: C+
The past decade has seen tremendous growth in charter schools. By 2005, over 3,600 charter schools were operating in 40 states and the District of Columbia.

SOURCE: Editorial Projects in Education Research Center, 2006
Resource Equity 2006

- Resource equity grades are based on an analysis of federal data, not state policies
- Some minor methodological changes for 2006
- 3 indicators used to measure equitable distribution of resources across districts in a state
  - District of Columbia and Hawaii are single-district systems and do not receive equity grades

**Most Equitable**
- Nevada (A-)
- Iowa (B+)
- New Mexico (B+)
- Utah (B+)

**Least Equitable**
- Montana (D-)
- North Dakota (D-)
- Vermont (F)
- Idaho (F)
The average level of per-pupil funding has steadily increased over the past decade. But great state-to-state variation is found after adjusting for regional costs differences.

**Adjusted Spending (2002-03)**

**Top 5**
- Dist. of Columbia: $11,031
- New Jersey: $10,908
- New York: $10,665
- Vermont: $10,571
- Wyoming: $9,811

**Bottom 5**
- Mississippi: $6,646
- Idaho: $6,609
- Nevada: $6,394
- Arizona: $6,331
- Utah: $5,067

*SOURCE: Editorial Projects in Education Research Center, 2006*
Editorial Projects in Education Research Center

- **Quality Counts 2006**: www.edweek.org/qc06
- **State Highlights Reports**: www.edweek.org/qc06/SHR
- **Education Counts**: www.edweek.org/rc
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