Indicators Supporting School Quality: Lessons Learned from the United States

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What Are School Indicators

• Statistics providing aggregate measures of important components of schooling

• Key ingredients
  • Student outcomes
  • Core system elements, processes and contextual variables that influence outcomes student outcomes

• Indicator systems model theory of action
Purpose/Use of Indicator Systems

- Multiple purposes
  - Monitor/evaluate
  - Data for improvement
  - Signal/motivate
  - Research

- Multiple potential users
  - Practitioners → policymakers
  - Local → district, state, regional, national
Validity Criteria for Indicator Systems

<table>
<thead>
<tr>
<th>Align with intended construct</th>
<th>Credible/meaningful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair</td>
<td>Comprehensible</td>
</tr>
<tr>
<td>Valid</td>
<td>Actionable</td>
</tr>
<tr>
<td>Reliable</td>
<td>Feasible</td>
</tr>
<tr>
<td>Comparable</td>
<td></td>
</tr>
</tbody>
</table>
International Systems

- European Commission: 4 categories, 16 total indicators
  - Learning attainment; transition success; monitoring; resources and structure

- OECD: 4 categories, 24 + sets of indicators
  - Education outputs; financial and human resource investment; access to education; participation and progress; learning environment
School Report Cards in the US

- Interest in school performance and accountability
- Increasing availability of data and data management tools
- Parents’ right to know/ school choice
- By 2001: federal legislation requires states to report on district and school progress in achieving No Child Left Behind goals:
  - Academic proficiency for all students
  - Student attendance and drop outs
  - Teacher qualifications
Current Typical School Report Card

• Web-based, interactive, multiple representations.
• Status and progress indicators → excellence and equity goals
  • School profile data: enrollment, demographic characteristics
  • Available resources: teacher quality, expenditures
  • School climate, learning environment
  • Proficiency by subject and grade: by every numerically significant subgroup
  • Student readiness for college
  • Status relative to state accountability targets
• Additional indicators to discourage gaming: % tested, drop outs
California Accountability Example: Academic Performance Index

- Overall, summary index for evaluating school status and progress. All schools expected to reach a score of 800.

- Index gives differentially weights performance in different subjects and for moving students from lowest to higher levels of achievement

- Index creation starts with individual student proficiency levels, and uses them to compute average test score value for each subject
  - Advanced: 1000 points
  - Proficient: 875 points
  - Basic: 700 points
  - Below basic: 500 points
  - Far below basic: 200 points
California Accountability Example: Academic Performance Index (cont.)

- Weights are then applied to the average scores for each subject

<table>
<thead>
<tr>
<th>Content Area</th>
<th>Elementary K-5</th>
<th>Middle School 6-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>English-Language Arts</td>
<td>56.5</td>
<td>51.4</td>
</tr>
<tr>
<td>Mathematics</td>
<td>37.6</td>
<td>34.3</td>
</tr>
<tr>
<td>Science, grades 5 &amp; 8</td>
<td>5.9</td>
<td>7.1</td>
</tr>
<tr>
<td>History/Social Science, grade 8</td>
<td>NA</td>
<td>7.1</td>
</tr>
</tbody>
</table>

- School API score is the weighted average score across all subjects
California Accountability Example: Academic Performance Index (cont.)

- School API scores are then used to rank schools, by school level, on a 1-10 scale (lowest to highest): performance relative to state as a whole.

- School API scores also used to rank each school relative to the 100 most demographically similar schools – again 1-10 scale: performance relative to schools serving similar students.

- Schools also responsible for meeting specified progress targets, showing minimum progress toward -- or beyond -- 800 API score.
Indices for Identifying Excellent Schools: Washington Example

- Overall school quality index reflecting state goals
- Index based on student performance in 5 outcome areas (reading, writing, math, science, drop out rate)
- Four indicators for each outcome area:
  - Achievement of non-low income students
  - Achievement of low income students
  - Achievement versus peers (demographically similar schools)
  - Improvement from previous year
Indices for Identifying Excellent Schools: Washington Example (cont)

• Schools rated 1-7 in each outcome area by indicator
  • Ratings reflect % of students who meet standard
  • 7=90.1-100%; 6=80.1-90%, etc.

• Overall index is simple average over all categories

• 7 tiers of schools based on specified index ranges
  • 5.50-7.00 designated exemplary
  • 1.00-2.49 designated struggling
  • Below 1.00 designated highest priority for improvement
Indices for Identifying Excellent Schools: Washington Example (cont)

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reading</td>
</tr>
<tr>
<td>Achievement of non-low income students</td>
<td>7</td>
</tr>
<tr>
<td>Achievement of low income students</td>
<td>5</td>
</tr>
<tr>
<td>Achievement vs. Peer</td>
<td>6</td>
</tr>
<tr>
<td>Improvement from previous year</td>
<td>4</td>
</tr>
<tr>
<td>INDEX SCORES</td>
<td>5.5</td>
</tr>
</tbody>
</table>
Lessons Learned: Cautions

• Indicators only as good as underlying measures
• Indicators rather than intended goals can take precedence
• Campbell’s law:

*The more any quantitative social indicator is used for social decision-making, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the social processes it is intended to monitor*
Lessons Learned: Fostering Continuous Improvement

• Valid indicators can provide evidence to support decision making and stimulate action

• But the use of data for successful improvement requires much more: supporting infrastructure, diverse expertise, effective process and compatible professional culture