Evidence-Based Reform in Education

Robert E. Slavin
Johns Hopkins University

-and-

University of York
Our task is to identify those reforms that have the highest impact on achievement, find them, and eliminate those programs that don’t produce results.

-President Barak Obama

The Audacity of Hope
School Reform is Constantly Churning

- Accountability/Assessment
- Governance
- Charters
- Teacher Evaluation
- Centralization/Site-Based Management
Stop the Pendulum, I Want to Get Off

- Fields lacking respect for evidence
  - Fashion
  - Art
  - Education

- Innovation in Education
  - Word of mouth
  - Tradition
  - Politics
  - Marketing

This must change.
What Works is What Matters

• Evidence-Based Reform

• Modeled on medicine, agriculture, engineering

• Creates a dynamic of progressive improvement
So What Works?

- Reviews using consistent standards of evidence
- What Works Clearinghouse
- Best-Evidence Encyclopedia (BEE)
BEE Inclusion Standards

- Programs compared to control group - random or matched

- Control group within $\pm .5$ SD of experimental group at pretest

- Posttests adjusted for pretests

- Measures are not inherent to treatment

- Duration at least 12 weeks
Which educational programs have been successfully evaluated in valid research?

What works in education? The Best Evidence Encyclopedia (BEE) presents reliable, unbiased reviews of research-proven educational programs to help:

- **POLICY MAKERS** use evidence to make informed choices.
- **PRINCIPALS** choose proven programs to meet state standards.
- **TEACHERS** use the most powerful tools available.
- **RESEARCHERS** find rigorous evaluations of educational programs.

...because all children deserve the best in education.

**Useful BEE Resource: Program Overviews**
Search for a program reviewed on the BEE and find an overview of useful information about the program, including evidence of effectiveness ratings and contact information.

**Better: Evidence-based Education Magazine**
Sign-up for a free issue of Better, a unique magazine from Johns Hopkins University's Center for Research and Reform in Education. Published three times a year, Better focuses on practical, evidence-based advice for decision makers in education. The theme of the fall 2010 issue is effective uses of technology.
## Elementary Mathematics Program Ratings

### Strong Evidence of Effectiveness

<table>
<thead>
<tr>
<th>Rating</th>
<th>Program</th>
<th>Type</th>
<th>Description</th>
<th>Contact / Website</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Classwide Peer Tutoring</td>
<td>IP</td>
<td>Pair learning approach in which children take turns as teacher and learner.</td>
<td>Contact Charles Greenwood at <a href="mailto:greenwood@ku.edu">greenwood@ku.edu</a>.</td>
</tr>
<tr>
<td></td>
<td>Missouri Mathematics Program</td>
<td>IP</td>
<td>Program focusing on active teaching, classroom management, motivation.</td>
<td>Contact Thomas Good, University of Arizona, at <a href="mailto:good@u.arizona.edu">good@u.arizona.edu</a></td>
</tr>
<tr>
<td></td>
<td>Peer Assisted Learning Strategies (PALS)</td>
<td>IP</td>
<td>Structured pair learning strategy in which children take turns as teachers and learners.</td>
<td>Website: <a href="http://www.kc.vanderbilt.edu/pals">www.kc.vanderbilt.edu/pals</a></td>
</tr>
<tr>
<td></td>
<td>Student Teams-Achievement Divisions</td>
<td>IP</td>
<td>Structured cooperative learning program in which students work in 4-member teams.</td>
<td>Contact Nancy Madden, Johns Hopkins University, at <a href="mailto:nmadden@jhu.edu">nmadden@jhu.edu</a></td>
</tr>
<tr>
<td></td>
<td>TAI Math</td>
<td>IP/MC</td>
<td>Structured cooperative learning program in which students work on individualized materials in 4-member teams.</td>
<td>Contact Brent Farmer, Charlesbridge Publishing, 800-225-3214, or <a href="mailto:bfarmer@charlesbridge.com">bfarmer@charlesbridge.com</a></td>
</tr>
</tbody>
</table>

### Moderate Evidence of Effectiveness

<table>
<thead>
<tr>
<th>Rating</th>
<th>Program</th>
<th>Type</th>
<th>Description</th>
<th>Contact / Website</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Classworks</td>
<td>CAI</td>
<td>Supplementary integrated learning system.</td>
<td>Website: <a href="http://www.curriculumadvantage.com">www.curriculumadvantage.com</a></td>
</tr>
<tr>
<td></td>
<td>Cognitively Guided Instruction</td>
<td>IP</td>
<td>Program that provides teachers with workshops in math strategies.</td>
<td>Contact Linda Levi, Teachers Development Group, at <a href="mailto:lindalevi@teachersdg.org">lindalevi@teachersdg.org</a></td>
</tr>
<tr>
<td></td>
<td>Connecting Math Concepts</td>
<td>IP</td>
<td>Structured approach to math with grouping by performance.</td>
<td>Website: <a href="http://www.sraonline.com/math">www.sraonline.com/math</a></td>
</tr>
<tr>
<td></td>
<td>Consistency Management &amp; Cooperative Discipline</td>
<td>IP</td>
<td>Program that emphasizes classroom management, student engagement.</td>
<td>Contact Jerome Freiberg, University of Houston, at <a href="mailto:cmcd@uh.edu">cmcd@uh.edu</a></td>
</tr>
<tr>
<td></td>
<td>Project SEED</td>
<td>IP</td>
<td>Supplementary program that has mathematicians teach advanced topics in math to supplement regular instruction.</td>
<td>Website: <a href="http://www.projectseed.org">www.projectseed.org</a></td>
</tr>
<tr>
<td></td>
<td>Small-Group Tutoring</td>
<td>IP</td>
<td>Provides tutoring in small groups for struggling first graders.</td>
<td>Contact Lynn Fuchs, Vanderbilt University, at <a href="mailto:lynn.fuchs@vanderbilt.edu">lynn.fuchs@vanderbilt.edu</a></td>
</tr>
</tbody>
</table>
What Works in Elementary Reading?

- Curricula (8): +0.13
- Technology (10): +0.11
- Instructional Process (40): +0.29
What Works in Secondary Reading?

- Curricula (0)
- Technology (8): +0.10
- Instructional Process (25): +0.21
What Works in Elementary Math?

Curricula (13) +0.1
Technology (38) +0.19
Instructional Process (36) +0.33
What Works in Secondary Math?

Curricula (8)

+0.13

Technology (10)

+0.11

Instructional Process (40)

+0.29
What Works for Struggling Elementary Readers?

- 1-1 Tutoring by Teachers: +0.46
- 1-1 Tutoring by Paras (18): +0.24
- Small Group Tutoring (18): +0.31
- Success for All (9): +0.55
Characteristics of Effective Programs

- Lots of professional development
- Focus on classroom practice
- Clear idea of what effective practice looks like
- Constant monitoring of student achievement
- Leadership support for use of proven practices
Proven Programs ➔ School Change

- Schoolwide commitment
- Fidelity of implementation
- Coaching
- Data-informed support
- Constant improvement
Lessons From Scaling Up Proven Programs

- Leadership matters. Governance doesn’t.
- Whole school change is essential.
- Professional development and coaching are essential.
- On-site facilitators are essential.
- Use what works!
A Vision of the Future

- Teachers and administrators choosing among proven programs and practices
- Robust research and development enterprise to create, evaluate, and disseminate new programs
- Networks of schools supporting each other in using and refining proven programs
- Funding from government focused on proven programs