BIG Gets Largest Test Gains in State for Low Performing School

In Year 2 of BIG, Goethe Middle School achieved the largest gains in SAT-9 reading scores among schools performing in the bottom quartile in California. Goethe gained 14 points, moving from the 21st percentile to the 35th in reading. Raising scores from the 21st percentile is much more difficult than from the 40th or 50th percentile. Imagine the schools performing at each percentile as a runner in a race of 100 runners. The longer the race goes, the more distance between the runners falling behind and the main pack of runners. Passing 14 runners (gaining 14 percentile points) requires covering much more distance for a runner in the tail than for a runner in the middle of the pack. Goethe’s gains ranked 5th in California.

The 4 middle schools posting better gains started closer to the middle.

Goethe’s math scores moved from the 27th percentile to the 35th. Students in the BIG math program scored higher than the students in Algebra (a non-BIG program). (Students placed in the BIG math program were initially performing below algebra placement level.)

BIG Professional Development Model Gets Results to Spread

To prevent low quality replications of BIG, our training model includes substantial in-class coaching in the training school before teachers start working in their classrooms.

Teachers new to the model are released from their classrooms and attend a 3-day training at a training school with a high quality implementation. During this time, the teachers-in-training work in classrooms with teachers proficient in the model, receiving intensive coaching.

The quality of teachers’ first lesson at their own school has been greatly improved through this model.

Through our partnership with the Sacramento County Office of Education, Goethe MS has received a great deal of attention. Over 800 teachers have been trained in over 50 schools in over 30 districts using this new training model. Seven schools have become new training centers. The state of Florida has also begun implementing the BIG Accommodation model in 9 schools.
BIG Replications Move Students Out of Bottom Quartile

The table below shows the results of the full BIG Model in the final year of the Goethe research project and the results of the replication efforts.

No school has replicated the full BIG Model. Six schools implemented the schoolwide reading component but did not implement the Understanding U.S. History course (for all grade 8 students).

However, nearly every student took a BIG reading class. (See reading placement tests at www.higherscores.org.)

The "partial BIG" schools implemented only with students at the bottom and used only the Corrective Reading—Decoding program. Page 3 shows the results for this subgroup on a more sensitive measure.

<table>
<thead>
<tr>
<th>Grade 8 SAT-9 Scores</th>
<th># of schools</th>
<th>Mean SAT-9 %ile1</th>
<th>Change in Mean</th>
<th>% of Ss in Qtr 1</th>
<th>Percent up to Qtr 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full BIG2</td>
<td>1</td>
<td>21</td>
<td>35</td>
<td>14</td>
<td>58</td>
</tr>
<tr>
<td>Schoolwide BIG Reading3</td>
<td>7</td>
<td>32</td>
<td>40</td>
<td>8</td>
<td>47</td>
</tr>
<tr>
<td>Partial BIG4</td>
<td>21</td>
<td>49</td>
<td>55</td>
<td>6</td>
<td>27</td>
</tr>
<tr>
<td>California 8th Graders5</td>
<td></td>
<td>43</td>
<td>47</td>
<td>4</td>
<td>33</td>
</tr>
</tbody>
</table>

1Mean of the percentiles of the mean raw scores provided on the California Department of Education website for each school.
2Full BIG: All programs implemented, including Understanding U.S. History and Expressive Writing 2 (SRA).
3Schoolwide BIG Reading: Schools tested all students for placement in a reading program (Corrective Reading Decoding, Comprehension, and Reasoning and Writing), as in the Goethe Project.
4Partial BIG: Schools selected students scoring below the 25th or 35th percentile in reading, and placed only those students in Corrective Reading Decoding, the remedial component of BIG.
5California: Percentiles for the mean raw scores of all the grade 8 students in California (www.cde.ca.gov).

Core Programs in the BIG Model

"BIG" includes 5 new programs incorporating the 6 design considerations for accommodating diverse learners (Kame'eui & Carnine, 2001):

- Understanding U.S. History (U of O, 1998);
- Reasoning and Writing (SRA, 2001),
- Connecting Math Concepts (SRA, 1996),
- Core Concepts videodisc science (Phoenix Film, 1990).
- Understanding Life, Physical, and Earth Science (under development).
- BIG also includes research-based and research-validated Corrective Reading (SRA, 2000).

Critical components of implementation include:

1) the curricula designed around "Big Ideas,"
2) intensive in-class coaching for teachers, and
3) continuous progress-monitoring of student mastery.

Our Motto:
"Only perfect practice makes perfect."

Background of the Goethe Middle School Implementation

Several factors provided impetus for the Goethe Research Project:

1) Middle schools were becoming aware of an acute school achievement problem,
2) Research work at U of O had resulted in a set of programs for at-risk middle schools (the BIG Accommodation),
3) A desperate middle school raised its hand for change (Goethe MS in Sacramento), thus becoming the testing ground for the full-scale BIG Accommodation.

The federally funded Goethe Research Project ran from 1997 to 1999 (2 years). The purpose of the Goethe Project was:

a) to evaluate the effects of a high quality implementation of the BIG Accommodation Model on learning,
b) and, if effective, develop a system for upscaling across many schools.
Results by School for Low Achieving Students

The pie charts below display performance on the Multi-Level Academic Survey Test relative to an end-of-grade 6 reading standard. The posttest scores are for the same students displayed in the pretest charts, by school.

**PRETESTS**

**October 1999**

<table>
<thead>
<tr>
<th>School</th>
<th>Green</th>
<th>Light Blue</th>
<th>Dark Blue</th>
<th>Grey</th>
<th>Red</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goethe, N=548</td>
<td>15%</td>
<td>10%</td>
<td>30%</td>
<td>35%</td>
<td>10%</td>
</tr>
<tr>
<td>Sierra, N=150</td>
<td>20%</td>
<td>30%</td>
<td>40%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Foothill Farms, N=110</td>
<td>30%</td>
<td>20%</td>
<td>30%</td>
<td>20%</td>
<td>10%</td>
</tr>
</tbody>
</table>

**February 2000**

<table>
<thead>
<tr>
<th>School</th>
<th>Green</th>
<th>Light Blue</th>
<th>Dark Blue</th>
<th>Grey</th>
<th>Red</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alicia, N=282</td>
<td>10%</td>
<td>20%</td>
<td>20%</td>
<td>30%</td>
<td>40%</td>
</tr>
<tr>
<td>Oasis, N=129</td>
<td>30%</td>
<td>10%</td>
<td>20%</td>
<td>30%</td>
<td>40%</td>
</tr>
<tr>
<td>Raymond Cree, N=245</td>
<td>15%</td>
<td>25%</td>
<td>25%</td>
<td>15%</td>
<td>20%</td>
</tr>
</tbody>
</table>

**POSTTESTS, Spring 2000**

**Middle schools implementing in February achieved significant gains by May.**

Schools in their second year of BIG have nearly eliminated illiteracy.
BIG Middle Schools Implementing With Fidelity

Three schools, besides Goethe Middle School, have been implementing Corrective Reading for more than one year. These include Sutter Middle School in Sacramento City USD, LeRoy Green in Natomas USD, and Foothill Farms in Grant USD.

The pie charts on page 3 display the scores of all students placed in Corrective Reading Decoding, who had both a pre- and a posttest score. (Sutter did not participate in the MAST testing.) The 3 schools in the leftmost column of page 3 are schools that have been implementing for more than one year. Their pretest scores in 1999 did not seem as low as the other schools, indicating a cumulative effect.

The schools displayed in the rightmost column on page 3 are schools that did not begin implementing until February 2000. In spite of their late start, students made remarkable progress. Factors that seem important for the success of these schools include: the strong commitment of the teachers and administrators to a quality implementation, adherence to the schedule for turning in student progress reports, and quality follow-up coaching. Year 3 data also indicate that effects can decline if a school does not stay focused on implementing with fidelity.

### Schools Implementing More of BIG

<table>
<thead>
<tr>
<th>School</th>
<th>District</th>
<th>Grade Level</th>
<th>Target</th>
<th>Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Lake Tahoe MS, Lake Tahoe USD</td>
<td>Reasoning and Writing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LeRoy Green MS, Natomas USD, Sacramento</td>
<td>Reasoning and Writing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>San Juan USD, Sacramento</td>
<td>Connecting Math Concepts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natomas High School, Sacramento</td>
<td>All BIG Tools</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desert Hot Springs HS, Palm Springs</td>
<td>All BIG Tools</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### References


Seven BIG Beacon Training Sites

Seven schools have become training centers for other schools. We call these schools “BIG Beacons.”

**BIG Beacon Schools:**
- Alcina MS, Marysville USD
- Apple Valley MS, Apple Valley USD
- Goethe MS, Sacramento City USD
- LeRoy Green MS, Natomas USD, Sacramento
- Raymond Cree MS, Palm Springs USD
- South Lake Tahoe MS, Lake Tahoe USD
- Starr King MS, San Juan USD, Sacramento

**Higher Performing Schools** is an organization of successful implementers, trainers, and teachers who help other schools implement effective school practices. Schools may contract for services with the Higher Performing Schools organization. Our strategy is to build a model school, a BIG Beacon, and then use that school as a professional development center for serving other teachers in the area. With this strategy, we are able to provide high quality, yet cost effective implementations of Direct Instruction programs.

Get the video documentary

“Goethe: the Middle School That Could”

916-228-2650

Price: $20

Profits go to Goethe Middle School