Using DIBELS Next® to Predict Performance on Statewide ELA Assessments: A Tale of Two Tests

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Disclosure

Roland Good is a co-owner of Dynamic Measurement Group, Inc. (DMG). Kelly Powell-Smith, Mary Abbott, and Amy Warnock are employees of DMG.

DMG is an educational company that is dedicated to supporting success for children and schools. DMG was founded by Roland H. Good III and Ruth Kaminski, authors of the Dynamic Indicators of Basic Early Literacy Skills (DIBELS®), and is the official home of DIBELS research, development, and training.

DMG receives revenue from the publication of DIBELS assessments, training and professional development, and the operation of the DIBELSnet® data reporting service.

DIBELS Next® is available for free download and unlimited photocopying for educational purposes at https://dibels.org/.

Additional information about DMG is available at https://dibels.org/.

Participant Objectives

1. Understand the association between DIBELS Next and ELA achievement standards on CCSS statewide assessments
2. Learn about the utility of DIBELS Next results for predicting performance on CCSS statewide assessments
3. Gain insight regarding how to use the information learned in this presentation to inform educational decisions within an MTSS service delivery model.
Purpose of the Study

The purpose of this study is to examine expectations for reading proficiency in context of Common Core State Standards assessments (CCSS) such as AzMERIT and Smarter Balanced and how DIBELS Next can inform decisions about student skills.

Research Questions

Research questions include:
1. What is the strength of the association between the DIBELS Next Composite Score and the SBAC and AzMERIT ELA scores?
2. What percent of students meet or exceed the grade-level SBAC or AzMERIT ELA standards for each DIBELS Next benchmark status category?
3. What is the estimated probability of meeting or exceeding the grade-level SBAC or AzMERIT ELA standards given each DIBELS Next Composite Score?
Methodology: Participants

Large School District, Arizona
- Assessment: AzMERIT ELA
- 2014–2015 School Year
- Grades 3–4
- Number of schools: 16
- \(n = 1,256\) (664 third-graders, 592 fourth-graders)

Large School District, Oregon
- Assessment: SBAC ELA
- 2015-2016 School Year
- Grades 3–5
- Number of schools: 18
- \(n = 2,138\) (758 third-graders, 696 fourth-graders, 684 fifth-graders)

Demographics

Measures

- DIBELS Next Composite Score (see Good, Kaminski, Dewey, Wallin, Powell-Smith, & Latimer, 2013)
- AzMERIT ELA (Arizona’s Measurement of Educational Readiness to Inform Teaching)
  - Four proficiency levels: Minimally Proficient (1), Partially Proficient (2), Proficient (3), Highly Proficient (4)
  - Cut score establishing the ‘Proficient’ level is the most critical
- SBAC ELA (Smarter Balanced Assessment Consortium)
  - Embedded in the OAKS (Oregon Assessment of Knowledge and Skills)
  - Four proficiency levels: Does Not Meet (1), Nearly Meets (2), Meets (3), Exceeds (4)
  - Cut score establishing the ‘Meets’ level is the most critical

Arizona’s Measurement of Educational Readiness to Inform Teaching (AzMERIT ELA)

Achievement Standard

Level 1 “minimally proficient,”
Level 2 “partially proficient,”
Level 3 “proficient,”
Level 4 “highly proficient.”
Smarter Balanced Assessment Consortium
English Language Arts (SBAC ELA)
Achievement Standard

Level 1 “has not met the achievement standard,”
Level 2 “has nearly met the achievement standard,”
Level 3 “has met the achievement standard,”
Level 4 “has exceeded the achievement standard.”

<table>
<thead>
<tr>
<th>Grade</th>
<th>Level 4</th>
<th>Level 3</th>
<th>Level 2</th>
<th>Level 1</th>
<th>SBAC Achievement Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>&gt;2489</td>
<td>2432-2489</td>
<td>2367-2431</td>
<td>&lt;2367</td>
<td>58th Percentile</td>
</tr>
<tr>
<td>4</td>
<td>&gt;2532</td>
<td>2473-2532</td>
<td>2416-2472</td>
<td>&lt;2416</td>
<td>57th Percentile</td>
</tr>
<tr>
<td>5</td>
<td>&gt;2581</td>
<td>2502-2581</td>
<td>2442-2501</td>
<td>&lt;2442</td>
<td>52nd Percentile</td>
</tr>
</tbody>
</table>

Note: Linearly interpolated percentiles from http://www.smarterbalanced.org/assessments/development/percentiles/ are provided in parentheses.

Meets or exceeds: Does not meet

DIBELS Next Achievement Standard

Performance at or above the 40th percentile on a high quality reading outcome measure was the achievement standard used to represent adequate reading proficiency for DIBELS Next.

For DIBELS Next, the Group Reading Assessment and Diagnostic Evaluation (GRADE) was used as an outcome measure representative of high-quality, group administered, standardized, norm-referenced reading assessments.

On the SBAC, a score of 2410 is at the 40th percentile on SBAC national norms.

http://www.smarterbalanced.org/assessments/development/percentiles/
Accessed: 2018-02-06

Different Standards (3rd Grade)

- AzMERIT Standard: 2509
  - 70th percentile on DIBELS Next National Norms using equi-percentile equating
- SBAC Standard: 2432
  - 51st percentile on SBAC National Norms
  - 47th percentile on DIBELS Next National Norms using equi-percentile equating
- DIBELS Next Benchmark Goal: 330 DIBELS Composite Score
  - 33rd percentile on DIBELS Next National Norms, Grade 3 end of year

http://www.smarterbalanced.org/assessments/development/percentiles/
Accessed: 2018-02-06

Data Collection

- IRB approval
- School districts invited to participate
- Parental consent
- Test data entered into spreadsheet that was uploaded to a secure site
- State assessment data matched to DIBELS Next data
- All data de-identified prior to data analysis
The Grade 3 DCS benchmark goal is 340 and the above benchmark is 405. The Grade 4 DCS benchmark goal is 391 and the above benchmark is 446.
Likelihood of Meeting Later Reading Goals and DIBELS Next Benchmark Status

DIBELS Next Benchmark Goals are designed to identify the level where the odds are in favor of that student achieving later reading outcomes.

- **At or Above Benchmark**: Odds are generally 80% to 90% of achieving subsequent benchmark goals and important reading outcomes. **Student is likely to make adequate progress with effective core instruction.**
  - Well Above Benchmark: 80th percentile or higher
  - Above Benchmark: 60th percentile to 79th percentile
  - At Benchmark: Benchmark goal to 59th percentile

- **Below Benchmark**: Odds are generally 40% to 60% of achieving subsequent benchmark goals and important reading outcomes. **Student is likely to need strategic support to make adequate progress.**

If a student achieves a Benchmark Goal, the odds are in favor of that student achieving later reading outcomes.

- **Below Benchmark**: Odds are generally 40% to 60% of achieving subsequent benchmark goals and important reading outcomes. **Student is likely to need strategic support to make adequate progress.**
Below Benchmark on DIBELS Next Meeting State Achievement Standard G3

- **Well-Below Benchmark**: Odds are generally 10% to 20% of achieving subsequent benchmark goals and important reading outcomes. Student is likely to need intensive support to make adequate progress.

Three Levels of Performance Compared to DIBELS Next Benchmark Goals

If a student achieves a Benchmark Goal, the odds are in favor of that student achieving later reading outcomes.

- **Well-Below Benchmark**: Odds are generally 10% to 20% of achieving subsequent benchmark goals and important reading outcomes. Student is likely to need intensive support to make adequate progress.
Conclusions: Relation to State Outcomes

1. Our results indicate that there is a strong association between DIBELS Next and statewide ELA outcomes. The correlations between the DCS and the AzMERIT and SBAC ELA are strong, ranging from .71 to .77.

2. Across all grades and times of year, the DCS explained more variance in AzMERIT and SBAC ELA outcomes than the DORF Words Correct score alone, ranging from 5% to 9% additional variance explained.
Conclusions: DIBELS Next Benchmark Goals

3. The DIBELS Next Benchmark goals function well for the purposes for which they were designed. Students who are at or above the DIBELS Next Benchmark Goals are likely to score at or above the 40th percentile on high quality reading outcome measures.
   - The DIBELS Next Benchmark goal has always been intended to represent the lowest level of adequate reading.

4. The DIBELS Next Benchmark goals are not sufficient to place the odds in favor of meeting or exceeding the SBAC ELA achievement standard or the AzMERIT ELA achievement standard.

Conclusions: AzMERIT ELA Achievement Standard

5. That students scoring Well Above Benchmark on DIBELS Next are likely to meet or exceed the AzMERIT ELA achievement standards,
   - At or above the 73rd percentile (BOY Grade 3) to 85th percentile (EOY Grade 4).

6. Students who score At Benchmark or below on DIBELS Next are unlikely to meet the AzMERIT ELA achievement standards,

7. Students who score Below Benchmark or Well Below benchmark have very little chance of meeting the AzMERIT ELA achievement standard.

Conclusions: SBAC ELA Achievement Standard

7. Students who score Above Benchmark on DIBELS Next are likely to meet or exceed SBAC ELA achievement standards

8. Students who scored Below Benchmark on the DCS at any time of year are unlikely to meet the SBAC ELA achievement standard.

9. Students who scored Well Below Benchmark on DCS have very little chance of meeting the SBAC ELA achievement standard.

Limitations

- These data represent the way DIBELS Next is used in practice.
- Things we do not know:
  - Assessment fidelity
  - Assessor training
  - Level of instructional support
  - Changes in levels of support
- Data from two school districts, potentially limiting generalizability.
Implications for Practice

- The purpose of DIBELS Next is to inform decisions about which students need instructional support to achieve important future reading outcomes and to monitor progress for students who are provided additional support.
- The DIBELS Next benchmark goals represent the lowest level of reading skill that puts the odds in a student’s favor of reaching subsequent goals.
- The information from this study will assist schools using DIBELS Next to identify and provide instructional support to students at-risk of falling below the statewide assessment standards.
- The standards set by the SBAC and AzMERIT are rigorous. The increased rigor in these standards likely will require increases in Tier 1 instructional rigor as well.

Implications for Future Research

- This study provides one of the very few examinations of the linkage of DIBELS Next performance on performance on statewide CCSS-aligned assessments.
- Future research should replicate these results.
- Additionally, future research might examine these results for subgroups of students.

References

Thank YOU!

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