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

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Acknowledgements

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In addition, we would like to thank David VanLoo, Director of School Improvement in the Bend-LaPine School District for his support in facilitating data transfer and in collaborating on data interpretation.

Finally, the DMG staff who daily keep our research moving forward.

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https://dibels.org/pubs.html

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.

Methodology: Participants

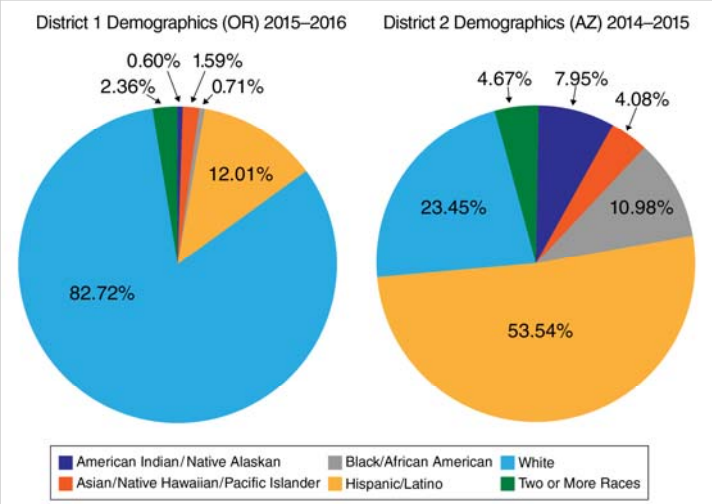
Large School District, Arizona

- 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



Correlations between DIBELS Next DORF Words Correct, DCS, and SBAC ELA Score

Grade and Time of Year	DORF Words Correct Correlated with SBAC ELA Score	DIBELS Composite Score Correlated with SBAC ELA Score	Additional Variance Explained by DIBELS Next Composite Score
Grade 3 Beginning of Year	.670	.708	5%
Grade 3 Middle of Year	.697	.739	6%
Grade 3 End of Year	.700	.751	7%
Grade 4 Beginning of Year	.683	.721	5%
Grade 4 Middle of Year	.681	.718	5%
Grade 4 End of Year	.675	.726	7%

Correlations–DIBELS Next with AzMERIT

Grade and Time of Year	DORF Words Correct Correlated with AzMERIT ELA Score	DIBELS Composite Score Correlated with AzMERIT ELA Score	Additional Variance Explained by DIBELS Next Composite Score
Grade 3 Beginning of Year	.672	.731	8%
Grade 3 Middle of Year	.699	.740	6%
Grade 3 End of Year	.672	.721	7%
Grade 4 Beginning of Year	.714	.759	7%
Grade 4 Middle of Year	.715	.772	9%
Grade 4 End of Year	.702	.757	8%

Smarter Balanced Assessment Consortium English Language Arts Achievement Standard (SBAC 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 1. SBAC English Language Arts Descriptive Levels with SBAC Achievement Standard (percentile)

Grade	*Level 4*	*Level 3*	*Level 2*	*Level 1*	*SBAC Achievement Standard*
3	>2489	2432–2489	2367–2431	<2367	58th Percentile
4	>2532	2473–2532	2416–2472	<2416	57th Percentile
5	>2581	2502–2581	2442–2501	<2442	52nd Percentile

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

Meets or exceeds **Does not meet**

Arizona's Measurement of Educational Readiness to Inform Teaching ELA Achievement Standard (**AzMERIT Standard**)

Level 1 "minimally proficient,"

Level 2 "partially proficient,"

Level 3 "proficient,"

Level 4 "highly proficient."

Grade	Level 4	Level 3	Level 2	Level 1
3	2541–2605	2509–2540	2497–2508	2394–2496
4	2559–2610	2523–2558	2510–2522	2400–2509

Source: https://cms.azed.gov/home/GetDocumentFile?id=57f6...9b5aadebf0a04b267c9

Meets or exceeds | **Does not meet**

DIBELS Next Achievement Standard

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

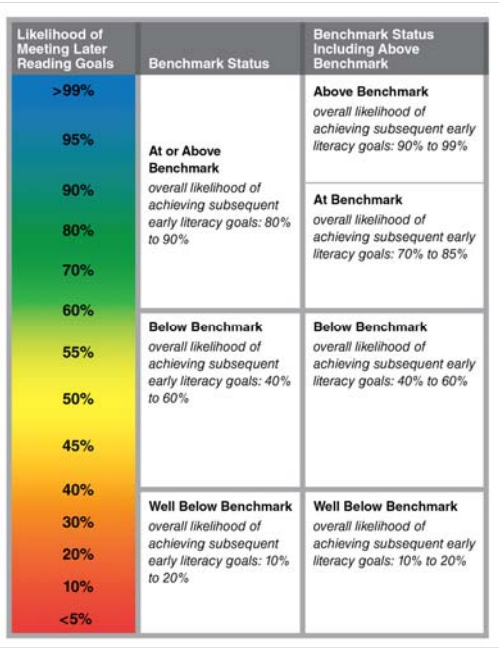
For DIBELS Next, the Group Reading Assessment and Diagnostic Evaluation (GRADE) was used as an outcome measure representative of high-quality, group administered, standardized, norm-referenced reading assessments.

For example, on the SBAC, a score of **2410** is at the 40th percentile on SBAC national norms in third grade.
http://www.smarterbalanced.org/assessments/development/percentiles/
Accessed: 2018-02-06

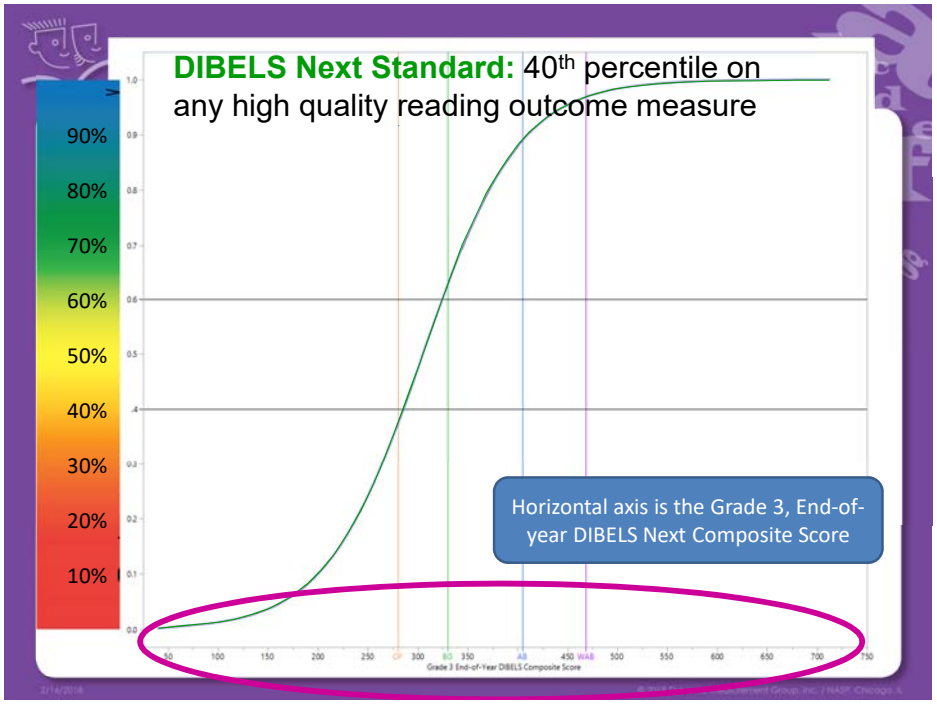
DIBELS Next Benchmark Goal

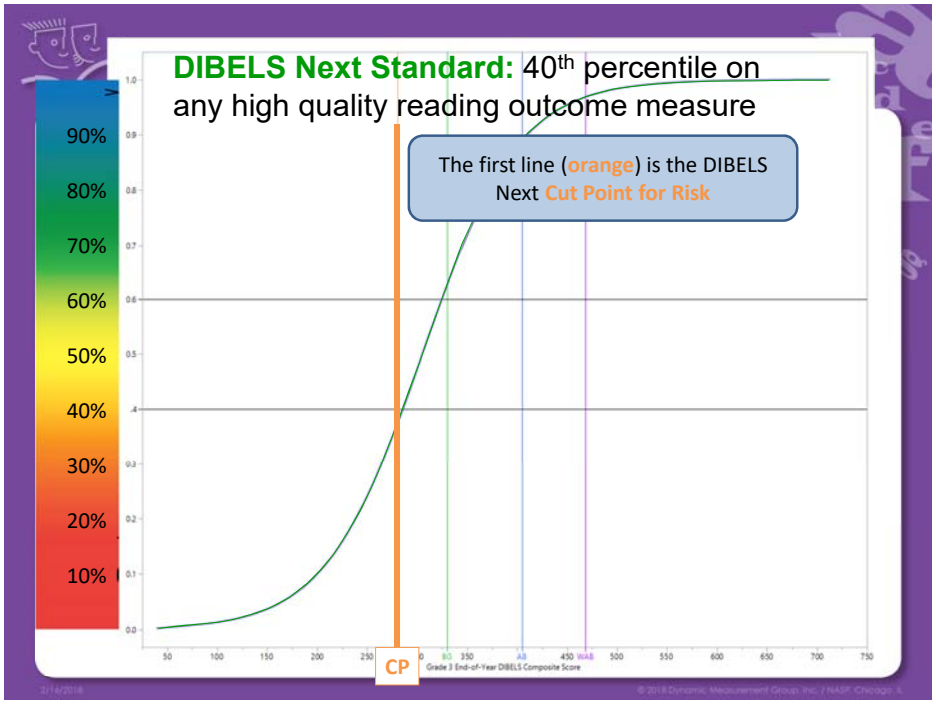
DIBELS Next Benchmark Goals are designed to identify the level where the odds are in favor of that student achieving later reading outcomes.

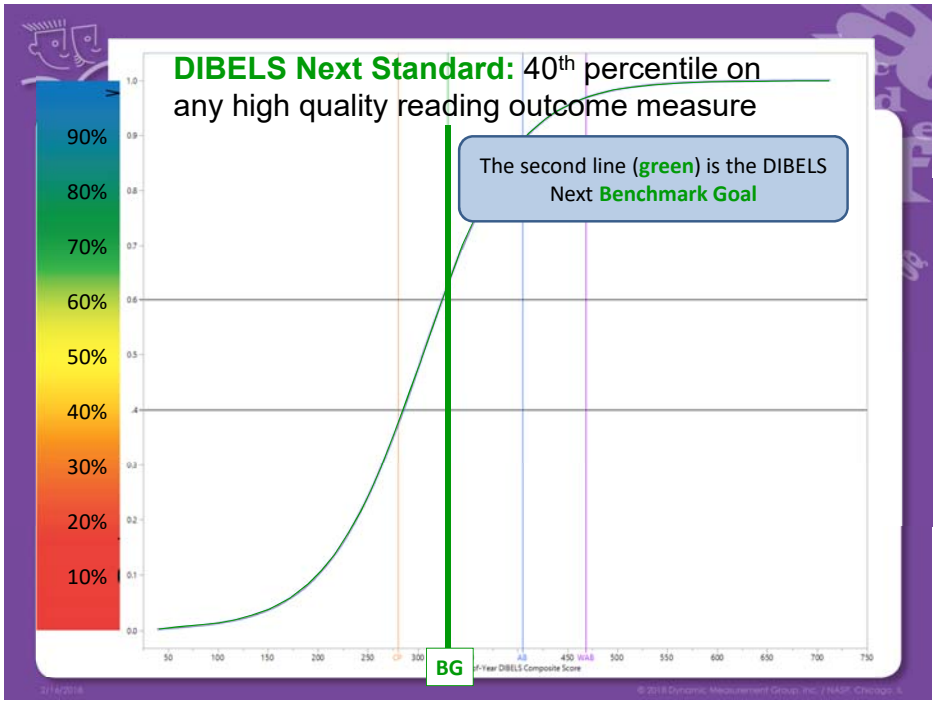
- **At or Above Benchmark**: Odds are generally 80% to 90% of achieving subsequent benchmark goals and important reading outcomes. **Student is likely to make adequate progress with effective core instruction**.
  - **Well Above Benchmark**: 80th percentile or higher
  - **Above Benchmark**: 60th percentile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

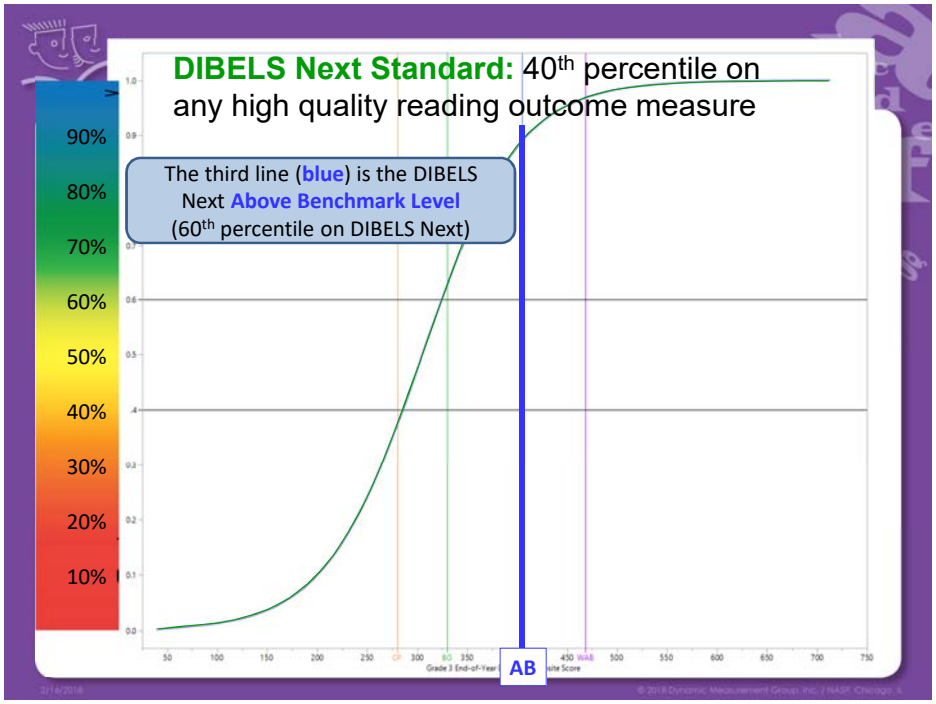


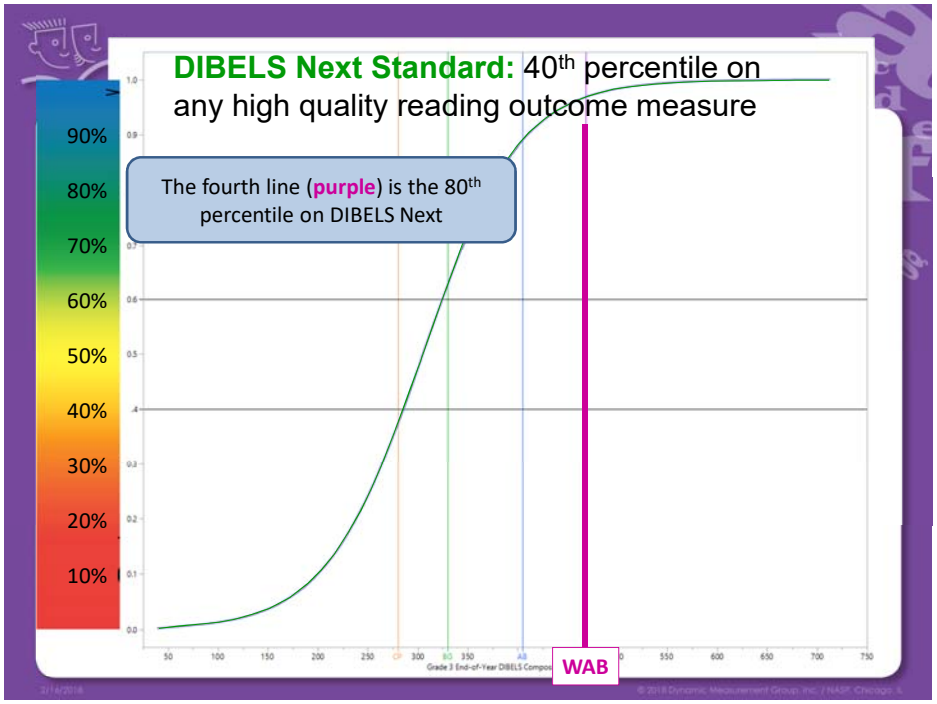
Likelihood of Meeting Later Reading Goals and DIBELS Next Benchmark Status

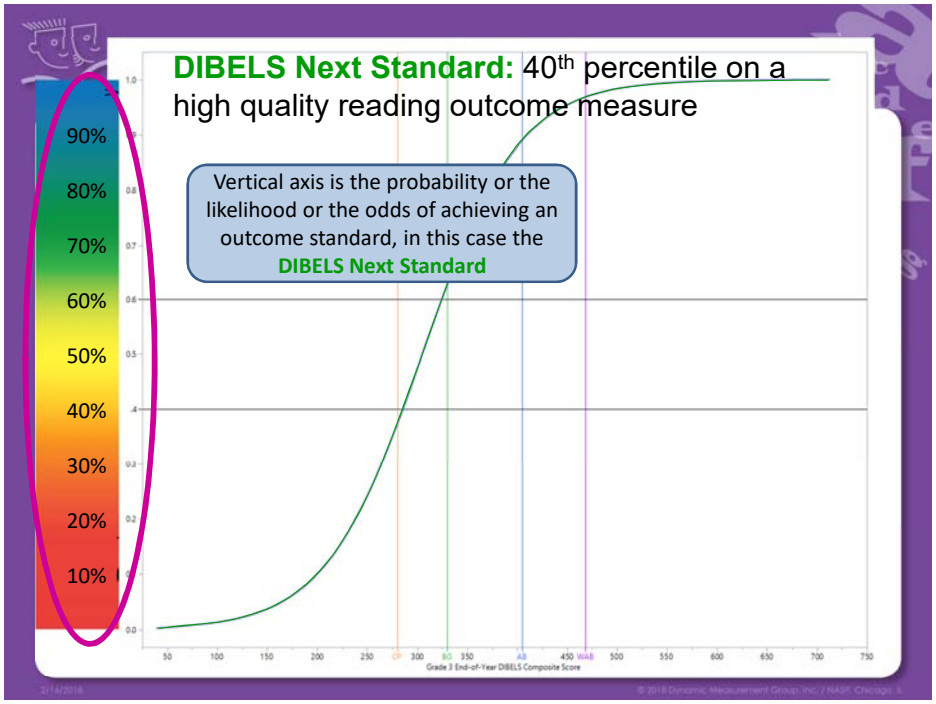

DIBELS Next Standard: 40th percentile on any high quality reading outcome measure
90%
80%
70%
60%
50%
40%
30%
20%
10%
Horizontal axis is the Grade 3, End-of-year DIBELS Next Composite Score

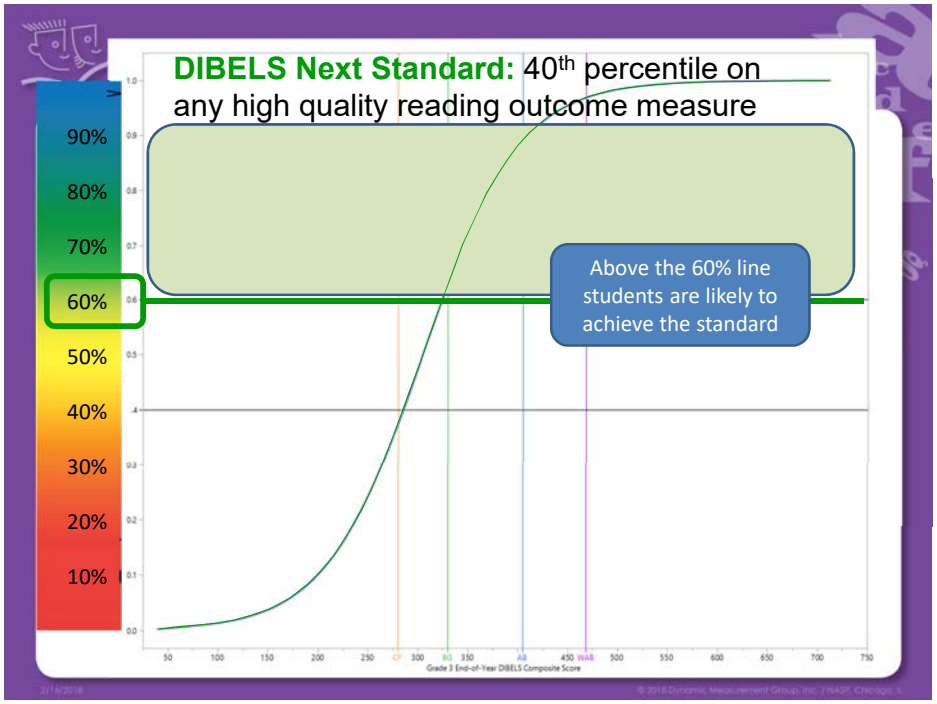

DIBELS Next Standard: 40th percentile on any high quality reading outcome measure
90%
80%
70%
60%
50%
40%
30%
20%
10%
The first line (orange) is the DIBELS Next Cut Point for Risk
CP

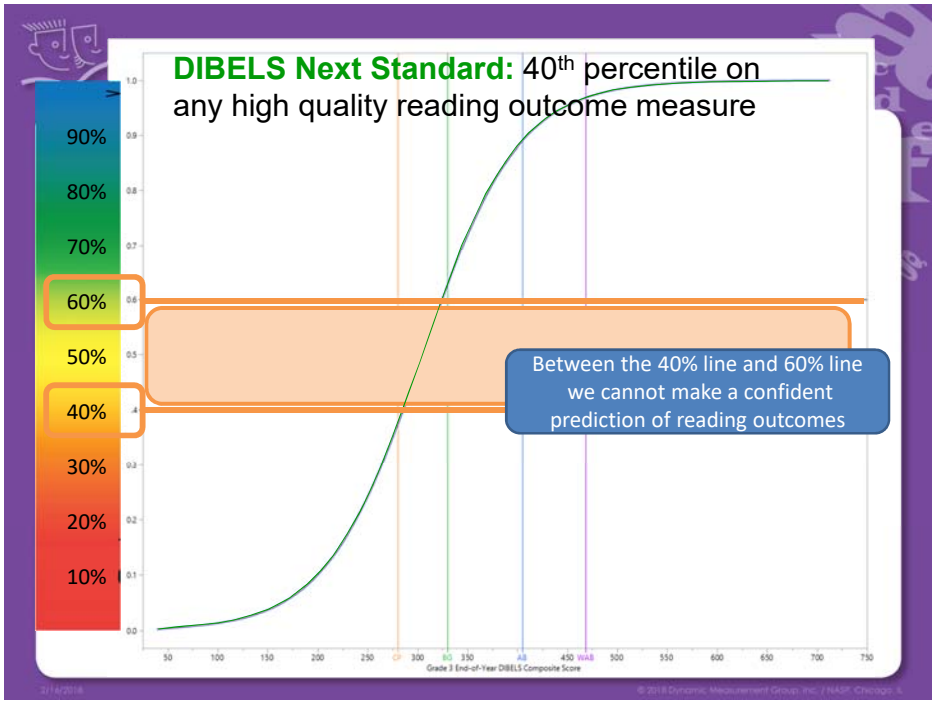

DIBELS Next Standard: 40th percentile on any high quality reading outcome measure
90%
80%
70%
60%
50%
40%
30%
20%
10%
The second line (green) is the DIBELS Next Benchmark Goal
BG

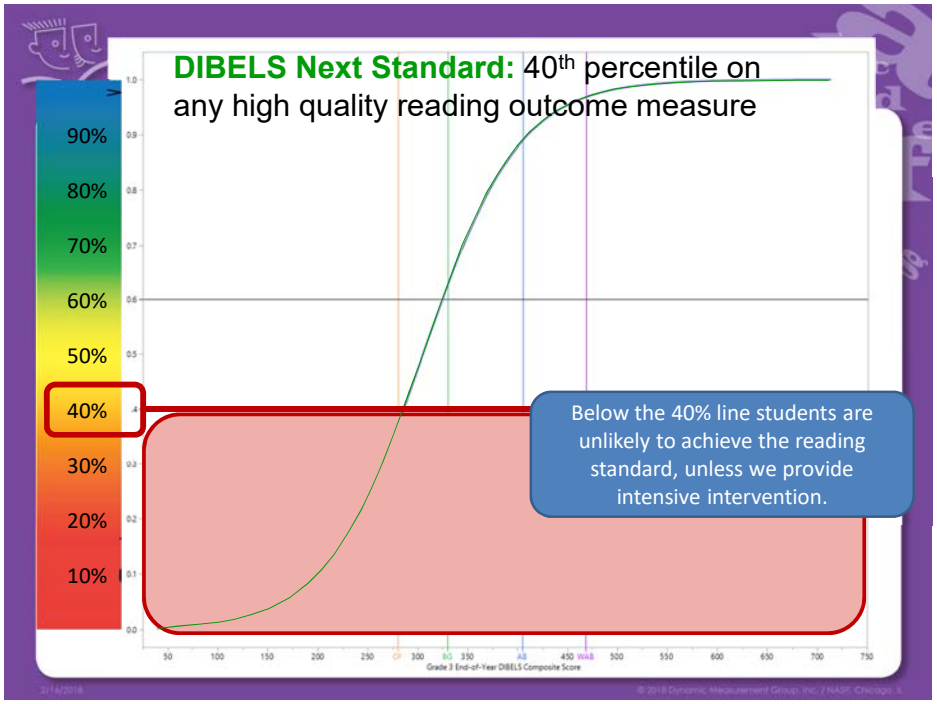

DIBELS Next Standard: 40th percentile on any high quality reading outcome measure
90%
80%
70%
60%
50%
40%
30%
20%
10%
The third line (blue) is the DIBELS Next Above Benchmark Level (60th percentile on DIBELS Next)
AB

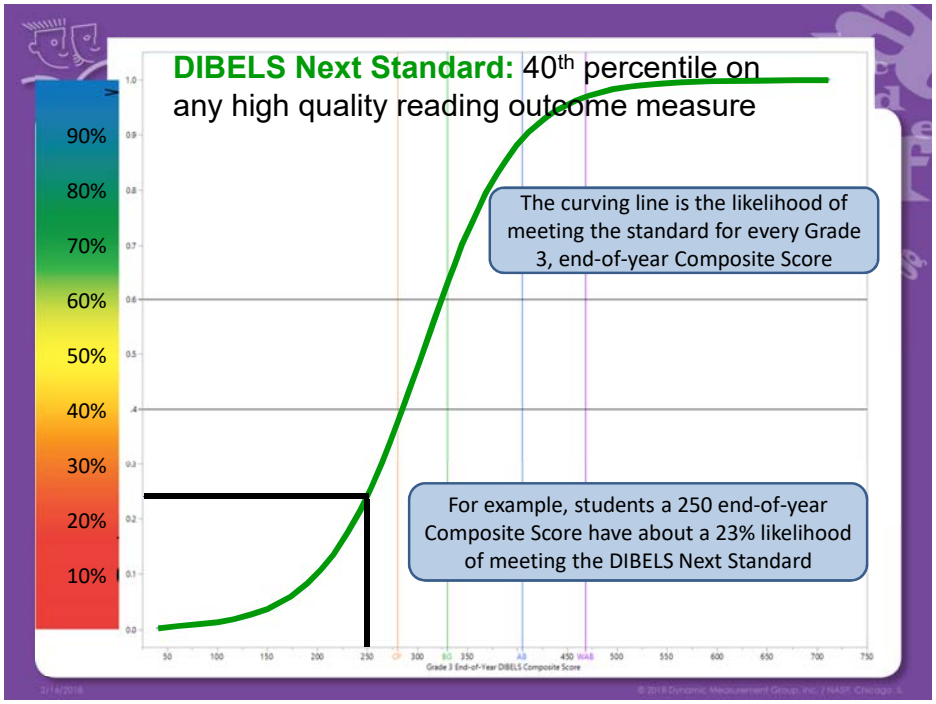

DIBELS Next Standard: 40th percentile on any high quality reading outcome measure
The fourth line (purple) is the 80th percentile on DIBELS Next
90%
80%
70%
60%
50%
40%
30%
20%
10%
WAB

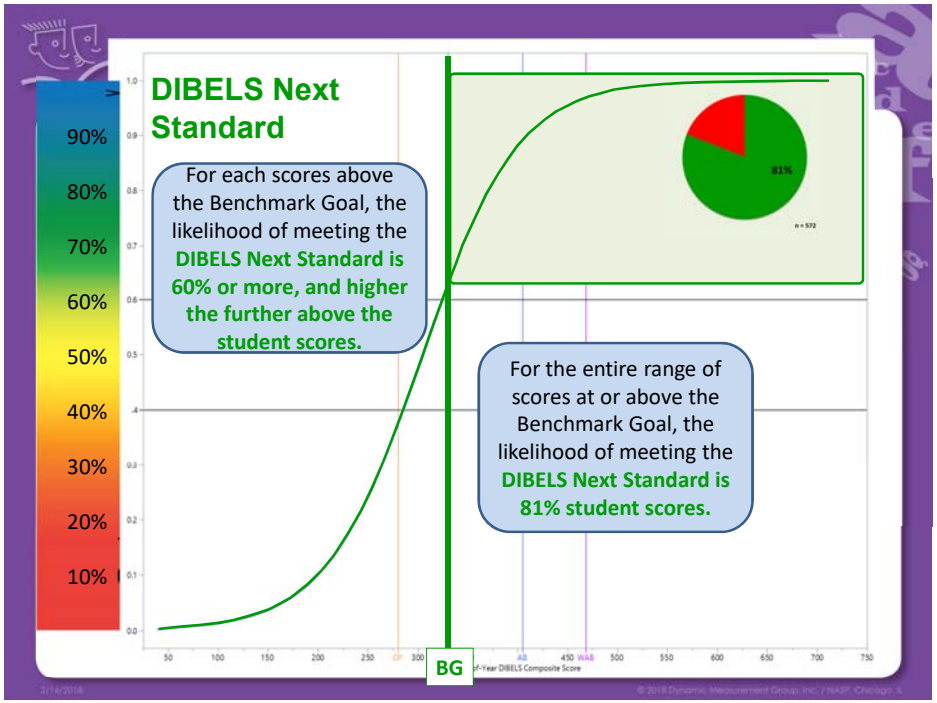

DIBELS Next Standard: 40th percentile on a high quality reading outcome measure
Vertical axis is the probability or the likelihood or the odds of achieving an outcome standard, in this case the DIBELS Next Standard
90%
80%
70%
60%
50%
40%
30%
20%
10%

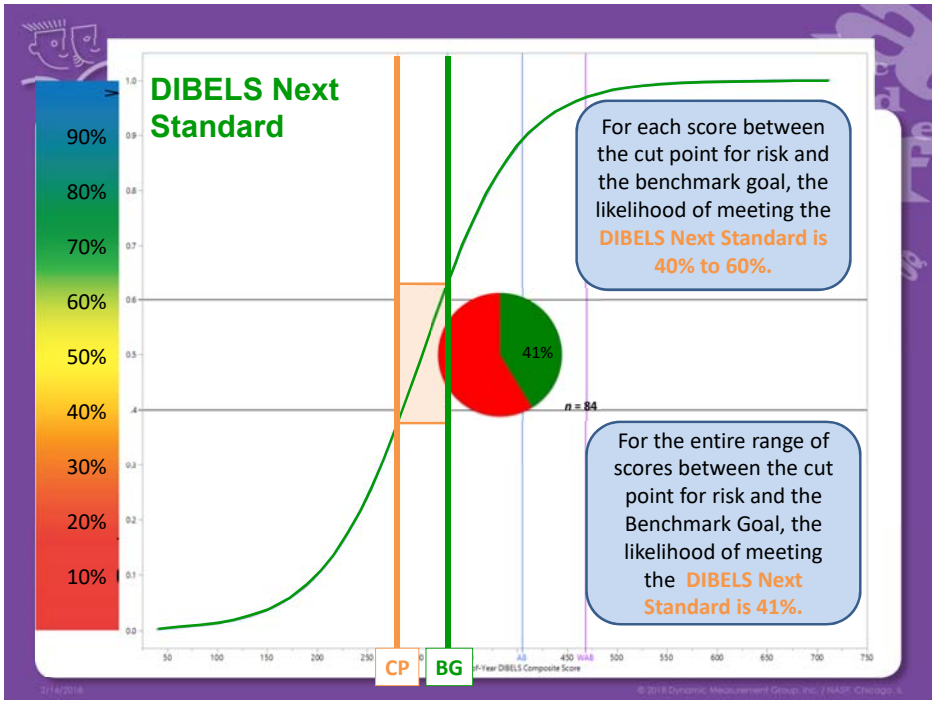

DIBELS Next Standard: 40th percentile on any high quality reading outcome measure
Above the 60% line students are likely to achieve the standard
90%
80%
70%
60%
50%
40%
30%
20%
10%

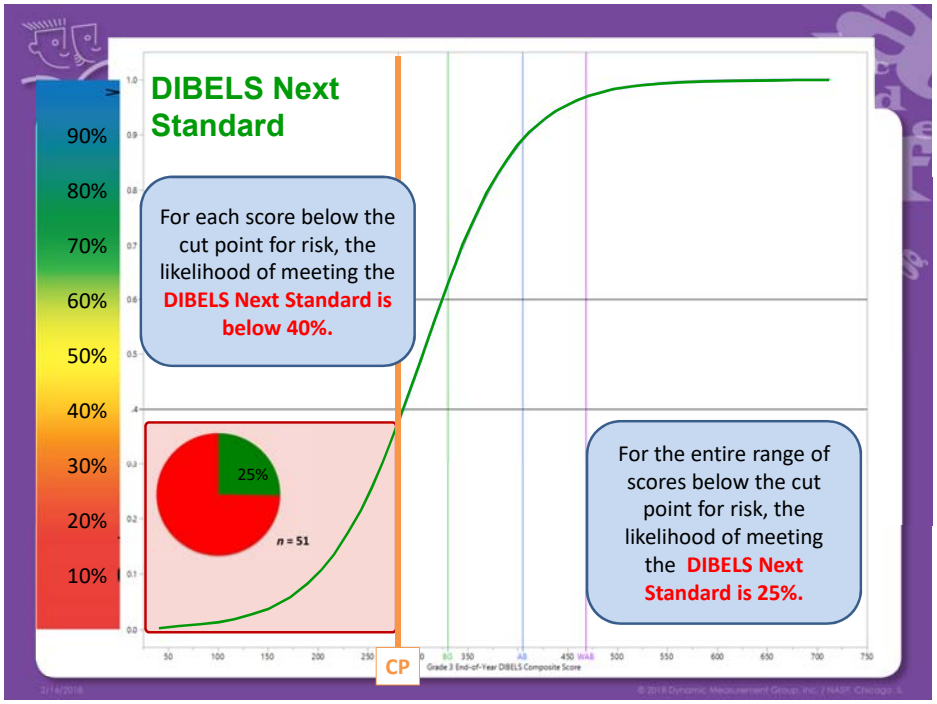

DIBELS Next Standard: 40th percentile on any high quality reading outcome measure
Between the 40% line and 60% line we cannot make a confident prediction of reading outcomes
90%
80%
70%
60%
50%
40%
30%
20%
10%


DIBELS Next Standard: 40th percentile on any high quality reading outcome measure
90%
80%
70%
60%
50%
40%
30%
20%
10%
Below the 40% line students are unlikely to achieve the reading standard, unless we provide intensive intervention.


DIBELS Next Standard: 40th percentile on any high quality reading outcome measure
90%
80%
70%
60%
50%
40%
30%
20%
10%
The curving line is the likelihood of meeting the standard for every Grade 3, end-of-year Composite Score
For example, students a 250 end-of-year Composite Score have about a 23% likelihood of meeting the DIBELS Next Standard


DIBELS Next Standard
90%
80%
70%
60%
50%
40%
30%
20%
10%
For each scores above the Benchmark Goal, the likelihood of meeting the DIBELS Next Standard is 60% or more, and higher the further above the student scores.
81%
For the entire range of scores at or above the Benchmark Goal, the likelihood of meeting the DIBELS Next Standard is 81% student scores.
BG


DIBELS Next Standard
90%
80%
70%
60%
50%
40%
30%
20%
10%
For each score between the cut point for risk and the benchmark goal, the likelihood of meeting the DIBELS Next Standard is 40% to 60%.
41%
n = 84
For the entire range of scores between the cut point for risk and the Benchmark Goal, the likelihood of meeting the DIBELS Next Standard is 41%.
CP
BG



Conclusions:

The DIBELS Next Benchmark Goal and cut point for risk are working well and as designed with respect to the DIBELS Next Achievement Standard.

- **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**.
- **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**.
- **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**.

Smarter Balanced Assessment Consortium English Language Arts Achievement Standard (**SBAC Standard**)

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Level 2 "has nearly met the achievement standard,"

Level 3 "has met the achievement standard,"

Level 4 "has exceeded the achievement standard."

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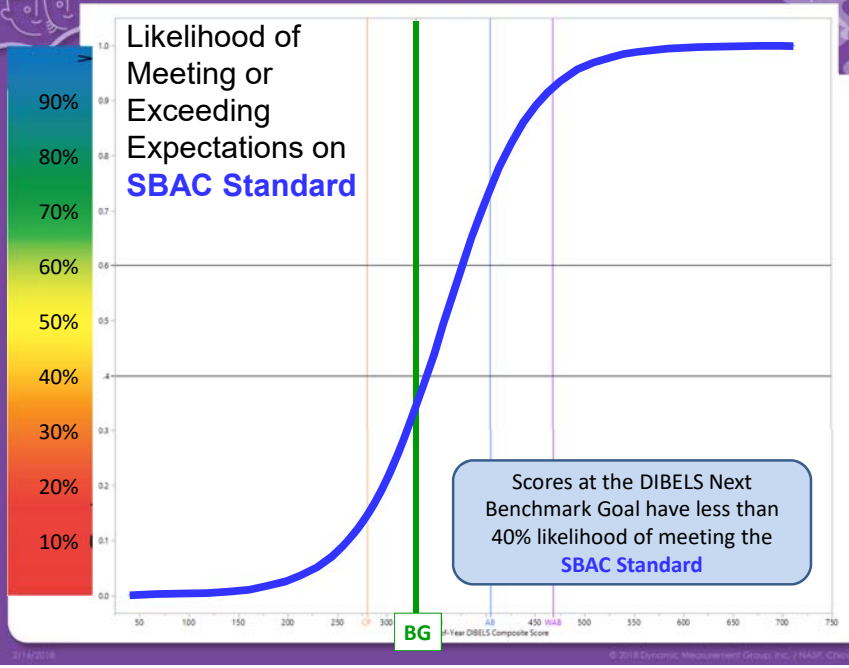
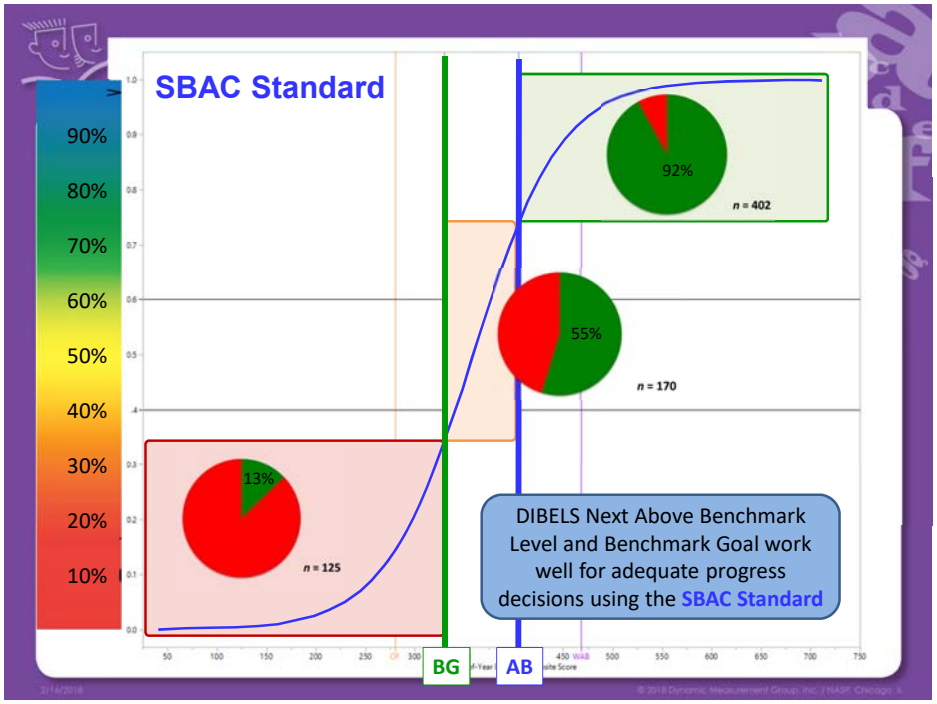
Meets or exceeds | **Does not meet**





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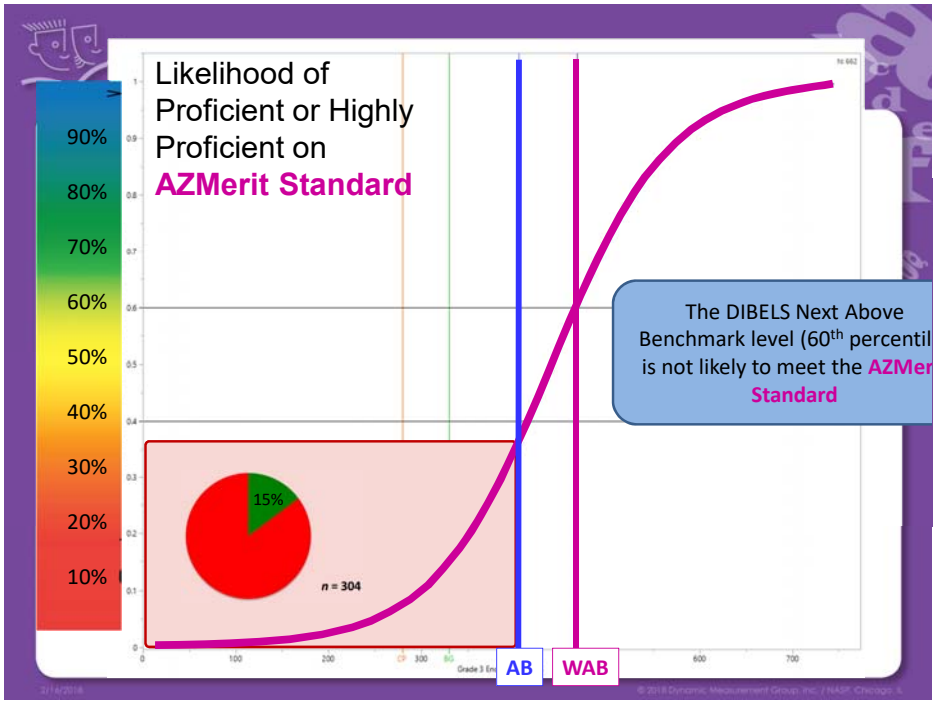
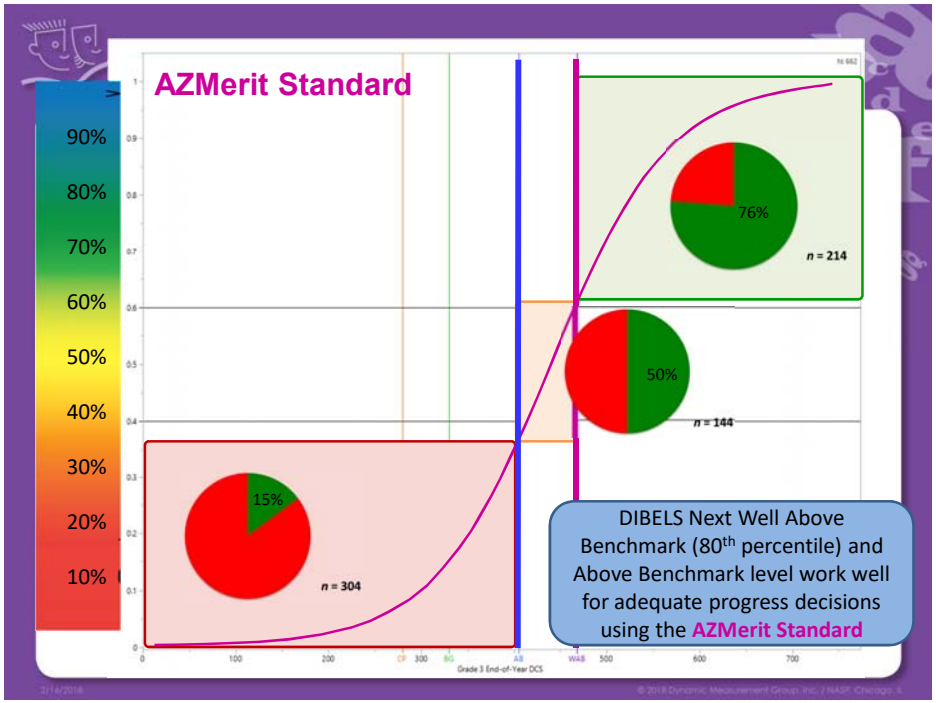
Source: https://cms.azed.gov/home/GetDocumentFile?id=57f689b5aadebf0a04b267c9

Meets or exceeds | Does not meet





Different Standards (3rd Grade)

- DIBELS Next Benchmark Goal: 330 DIBELS Composite Score
  - 33rd percentile on DIBELS Next National Norms
- SBAC Standard: 2432
  - 51st percentile on SBAC National Norms
- AzMERIT Standard: 2509
  - 70th percentile on DIBELS Next National Norms using equi-percentile equating

http://www.smarterbalanced.org/assessments/development/percentiles/
Accessed: 2018-02-06
https://dibels.org/papers/DIBELSNextNormsTechReport17.pdf

DIBELS Next Scores for AzMERIT Standard

Grade and Time of Year	DIBELS Next Composite Score corresponding to **.40 or less** estimated probability of meeting the AzMERIT ELA achievement standard	DIBELS Next Composite Score corresponding to **.60 or greater** estimated probability of meeting the AzMERIT ELA achievement standard
Grade 3 Beginning of Year	282 (57)	327 (73)
Grade 3 Middle of Year	350 (60)	397 (76)
Grade 3 End of Year	415 (63)	468 (80)
Grade 4 Beginning of Year	355 (65)	409 (81)
Grade 4 Middle of Year	402 (67)	454 (83)
Grade 4 End of Year	475 (70)	526 (85)

Note. Percentile rank corresponding to DIBELS Next Composite Score is in parentheses.

DIBELS Next Scores for SBAC Standard

Grade and Time of Year	DIBELS Next Composite Score Corresponding to **.40 or less** estimated probability of or exceeding meeting SBAC ELA achievement standard	DIBELS Next Composite Score Corresponding to **.60 or greater** estimated probability of meeting or exceeding SBAC ELA achievement standard
Grade 3 Beginning of Year	203 (28)	248 (43)
Grade 3 Middle of Year	276 (32)	317 (47)
Grade 3 End of Year	**342 (37)**	**378 (50)**
Grade 4 Beginning of Year	258 (32)	313 (50)
Grade 4 Middle of Year	313 (33)	360 (51)
Grade 4 End of Year	**382 (34)**	**426 (51)**

Note. Percentile rank corresponding to DIBELS Next Composite Score is in parentheses.

Conclusions: Relation to State Outcomes

1. The correlations between the DIBELS Next Composite Score and the SBAC ELA and AzMERIT ELA scores were strong, ranging from .71 to .77.
2. The DIBELS Next Composite Score explained more variance in outcomes than DORF Words Correct 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 SBAC ELA Achievement Standard

5. Students who score **Above Benchmark** on *DIBELS Next* are likely to meet or exceed SBAC ELA achievement standards
6. Between the **Benchmark Goal** and the **Above Benchmark** level, we cannot make a clear prediction.
7. Students who scored **Below Benchmark** on the DCS at any time of year are unlikely to meet the SBAC ELA achievement standard.
8. Students who scored **Well Below Benchmark** on DCS have very little chance of meeting the SBAC ELA achievement standard.

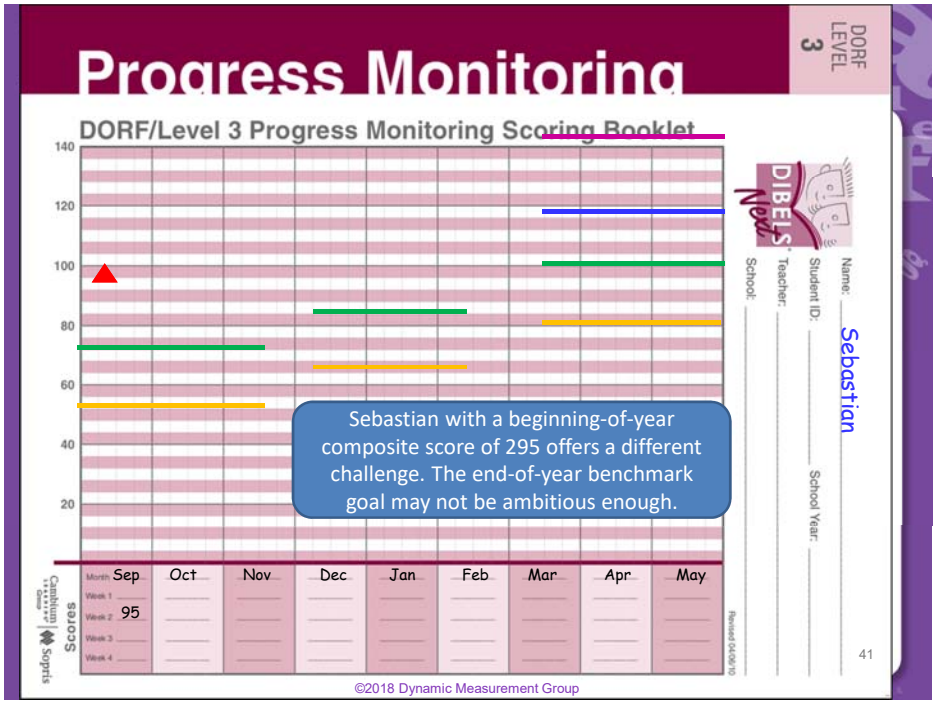
Conclusions: AzMERIT ELA Achievement Standard

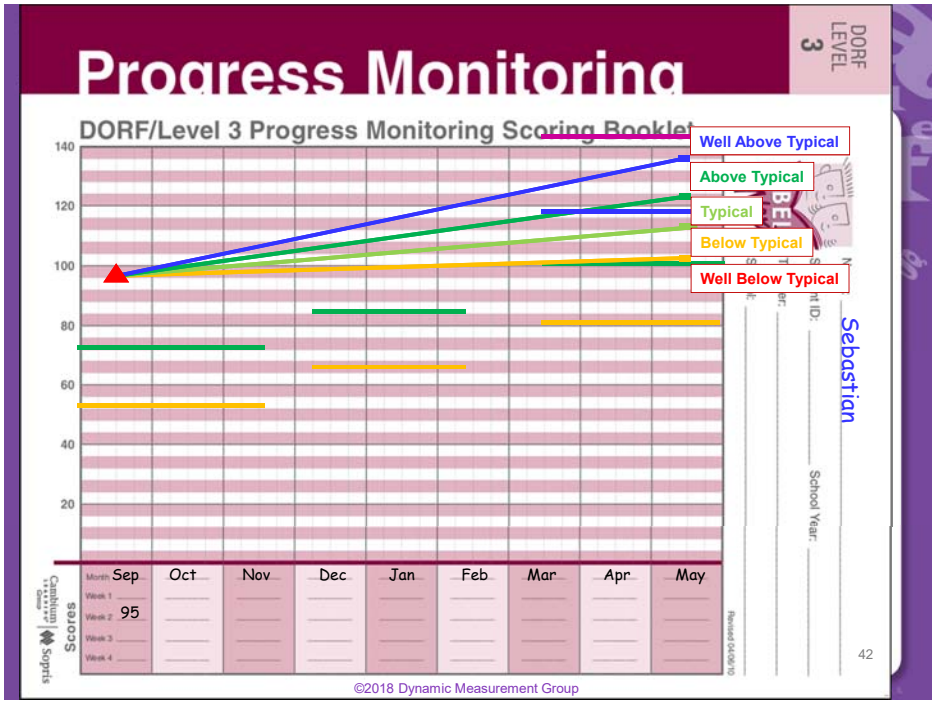
9. Students scoring **Well Above Benchmark** (80th percentile) on *DIBELS Next* are likely to meet or exceed the **AzMERIT ELA achievement standard**,
10. Between the **Above Benchmark** level and the 80th percentile, we cannot make a clear prediction.
11. Students who score **At Benchmark** or below on DIBELS Next are unlikely to meet the AzMERIT ELA achievement standards,
12. Students who score **Below Benchmark** or **Well Below benchmark** have very little chance of meeting the AzMERIT ELA achievement standard.

Implications for Practice

In short, challenge each student.

1. If a student is in the Below Benchmark or Well Below Benchmark, go for **Benchmark** (go for the **Green**)
2. If a student is At Benchmark, go for **Above Benchmark** (go for the **Blue**)
3. If a student is above benchmark, go for the **80th percentile**.





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.

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Thank YOU!

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