

Project CIRCUITS: Center for Improving Reading Competence  
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Summary of Decision Rules for Intensive, Strategic, and Benchmark Instructional  
Recommendations in Kindergarten Through Third Grade

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The purpose of this technical report is to provide a compilation of the Dynamic Indicators of Basic Early Literacy Skills™ (DIBELS™, Good & Kaminski, 2002) decision rules for intensive, strategic, and benchmark instructional recommendations. These decision rules represent a revision of the initial decision rules used in the DIBELS Data System. The initial decision rules focused on the longitudinal predictive validity of specific benchmark goals: Initial Sound Fluency (ISF) in middle of kindergarten, Phoneme Segmentation Fluency (PSF) at the end of kindergarten, Nonsense Word Fluency (NWF) in middle of first grade, and DIBELS Oral Reading Fluency (DORF) at the end of first, second, and third grades. The revised decision rules utilize the longitudinal predictive information from all participants in the DIBELS Data System to identify progressive benchmark goals en route to the initial goals. Within-academic-year predictive utilities are based on all schools participating in the DIBELS Data System during the 2001 – 2002 academic year. For example, the predictive utility of a beginning kindergarten recommendation for an end of kindergarten goal would be a within-year utility. Across year predictive utilities are based on all schools participating in the DIBELS Data System during the 2000 – 2001 and 2001 – 2002 academic years. For example, the predictive utility of a beginning kindergarten recommendation for an end of first grade goal would be an across-year predictive utility.

In establishing the DIBELS decision rules and instructional recommendations, we followed some general rules and principles. A first guiding principle is that we wanted to establish cutoffs and goals for healthy reading outcomes where the odds would be in favor of achieving subsequent early literacy goals and outcomes. For individual indicators, the level of performance where the odds are in favor of achieving subsequent outcomes was referred to as *low risk* if the measure was administered prior to the benchmark goal and it was referred to as *established* if the measure was administered at the time of the benchmark goal or after. When all available information from the DIBELS Benchmark Assessment is considered and an overall recommendation made, patterns of performance with the odds in favor of achieving subsequent goals received a recommendation of *Benchmark - At grade level*. In general, we tried to

establish cutoffs and rules where the odds in favor of achieving subsequent goals meant that approximately 80% or more of students with the pattern would achieve the goal.

A secondary goal of the decision rules was to identify students with the odds against achieving subsequent early literacy goals for whom intervention would be indicated. We tried to establish cutoffs where the odds against meant that approximately 20% or fewer of students with the pattern would achieve subsequent goals. For individual indicators, the level of performance where the odds are against achieving subsequent goals was referred to as *at risk* if the measure was administered prior to the benchmark goal, and *deficit* if the measure was administered at the benchmark goal or later. An instructional recommendation based on all of the DIBELS Benchmark Assessment measures for students with the odds against achieving subsequent goals was *Intensive - Needs Substantial Intervention*.

The third level of performance was when a clear prediction was not possible. In this case, the odds would be neither in favor nor against. We tried to establish cutoffs for the middle category where approximately 50% of students achieved subsequent early literacy goals. For individual indicators, the middle category was referred to as *some risk* prior to a benchmark goal, and *emerging* at a benchmark goal or later. When the pattern of performance across all of the DIBELS Benchmark Assessment measures does not yield a clear prediction, i.e., 50 – 50 odds, the instructional recommendation was *Strategic - Additional Intervention*.

On an individual measure basis, multiple factors were considered when establishing the cutoff points. The primary consideration was the odds of achieving subsequent early literacy goals. An additional factor that was considered was the percent of students in each decision category. A rough target was 20 percent to be identified as at risk or intensive, and 20 percent identified as some risk or strategic. A rough goal of effective reform would be 5 percent requiring intensive instructional intervention and 15% requiring strategic instructional support so that 100% achieve benchmark early literacy goals.

For each individual measure, Receiver Operator Characteristic (ROC) curves were examined to identify the tradeoff in sensitivity and specificity for possible cutoff scores. For

each measure, ROC curves were generated and evaluated for relevant subsequent benchmark goals. For example, in the beginning of kindergarten, ROC curves were examined for 4 benchmark goals: (a) ISF in middle of kindergarten, (b) PSF in end of kindergarten, (c) NWF in middle of first grade, and (d) DORF in end of first grade. For each measure and each benchmark goal, 2 ROC curves were considered: (a) with respect to a goal outcome of reading health (i.e., odds in favor of achieving subsequent goals), and (b) with respect to a goal outcome of reading difficulty (i.e., the level of the goal with odds against achieving subsequent goals). So, for example, for ISF at the beginning of kindergarten, 8 different ROC curves were considered and evaluated.

An additional consideration in establishing DIBELS decision rules and instructional recommendations was the theoretical structure and linkage of beginning reading skills with respect to literacy outcomes. Needless to say, it was seldom possible to establish a decision rule that satisfied all of these factors and considerations equally. A tradeoff of desirable features was frequently required. The overarching priority was to establish instructional recommendations and instructional goals where the odds are in favor of achieving subsequent literacy outcomes. Complete information on the development and specification of these decision rules is in preparation as CIRCUITS Technical Reports 1 through 11 and should be available by January, 2003.

#### Beginning of Kindergarten Instructional Recommendation

The specific cutoffs for the DIBELS Benchmark Assessment measures in the beginning of kindergarten are reported in Table 1. For example, students with ISF less than 4 would be at risk, and students with ISF of 8 or more would be at low risk. The DIBELS instructional recommendations and the percent of students with each DIBELS pattern who achieve subsequent goals is reported in Table 2. For each DIBELS pattern, at risk on ISF and at risk on LNF for example, the percent of students with the pattern who achieve each subsequent early literacy goal is provided. For example, of the students who are at risk on both ISF and LNF, 9 percent

achieved the ISF goal in middle of kindergarten, 44% achieved the PSF goal at the end of kindergarten, 24 percent achieved the NWF goal in the middle of first grade, and 34 percent achieved the DORF goal at the end of first grade. The average column is the average percent achieving subsequent goals. The patterns of performance are ordered by the average percent achieving subsequent goals. For each pattern, the percentile rank for the pattern is provided. For example, a student who is at risk on both ISF and LNF is at the 3<sup>rd</sup> percentile compared to other students in the DIBELS Data System. This means they scored as well as or better than 3 percent of students in the DIBELS Data System in beginning of kindergarten. Percentile ranks were computed by adding one half of the percent of students with the same pattern plus the percent of students in patterns with a lower average achieving subsequent goals (Salvia, & Ysseldyke, 2001).

Table 1

*Descriptive Levels of Performance in Beginning of Kindergarten*

Measure	Performance	Descriptor
DIBELS Initial Sound Fluency	ISF < 4	At Risk
	4 <= ISF < 8	Some Risk
	ISF >= 8	Low Risk
DIBELS Letter Naming Fluency	LNF < 2	At Risk
	2 <= LNF < 8	Some Risk
	LNF >= 8	Low Risk

Table 2

*Instructional Recommendations for Individual Patterns of Performance on Beginning of Kindergarten DIBELS Benchmark Assessment*

Initial Sound Fluency	Letter Naming Fluency	Pctile	Percent Meeting Later Goals				Avg.	Incidence	Instructional Support Recommendation
			Mid K ISF	End K PSF	Mid 1 NWF	End 1 ORF			
At Risk	At Risk	3	9	44	24	34	27	More Common	Intensive - Needs Substantial Intervention
Some Risk	At Risk	9	13	48	27	31	30	More Common	Intensive - Needs Substantial Intervention
At Risk	Some Risk	13	13	53	32	44	35	More Common	Intensive - Needs Substantial Intervention
Some Risk	Some Risk	19	18	58	33	45	39	More Common	Strategic - Additional Intervention
Low Risk	At Risk	25	26	57	30	43	39	More Common	Strategic - Additional Intervention
Low Risk	Some Risk	33	35	68	43	56	51	More Common	Strategic - Additional Intervention
At Risk	Low Risk	42	23	59	50	74	51	More Common	Strategic - Additional Intervention
Some Risk	Low Risk	50	30	71	51	75	57	More Common	Strategic - Additional Intervention
Low Risk	Low Risk	76	62	83	69	87	75	More Common	Benchmark - At grade level

*Note.* Percent meeting goal is the conditional percent of children who meet the (a) middle kindergarten goal of 25 on ISF, (b) end of kindergarten goal of 35 on PSF, (c) middle of first grade goal of 50 on NWF, and (d) end of first grade goal of 40 or more on DIBELS ORF.

The incidence column in Table 2 is intended to provide an indication of how often the pattern of performance occurs. In later decision rules, some patterns of performance are extremely rare. In the beginning of kindergarten, all patterns of performance were more common.

#### Middle of Kindergarten Instructional Recommendation

The cut scores for the middle of kindergarten benchmark assessment are reported in Table 3, and the corresponding instructional recommendations for all patterns of performance are reported in Table 4. The NWF measure is optional in middle of kindergarten, and so it is not incorporated in the patterns of performance and corresponding instructional recommendations. In the middle of kindergarten, the benchmark goal is 25 or better on ISF so descriptors for ISF are established, emerging, and benchmark. For the other measures, there is no instructional benchmark goal (LNF) or the measures are administered before the benchmark goal (PSF, NWF) so the descriptors are at risk, some risk, and low risk.

The instructional recommendations in Table 4 are based on the pattern of performance on ISF, LNF, and PSF. The goal is established skills on ISF in the middle of kindergarten, and some patterns with established ISF skills have very good odds of achieving later reading goals. For example, for children who have established initial sounds on ISF and who are low risk on LNF and PSF, the odds are 93 percent of achieving the first grade DORF goal. For other patterns with established initial sounds on ISF, the odds are much lower resulting in recommendations of strategic instructional support. For example, students with established skills on ISF but who are at risk on LNF and PSF have odds of only 31 percent of achieving the first grade DORF benchmark goal. However, ISF established, LNF at risk, and PSF at risk is an extremely rare and implausible pattern. When a student is very proficient with initial sounds, they should be scoring much higher than 7 on the phoneme segmentation fluency measure, in particular.

Table 3

*Descriptive Levels of Performance in Middle of Kindergarten*

Measure	Performance	Descriptor
DIBELS Initial Sound Fluency	ISF < 10	Deficit
	10 <= ISF < 25	Emerging
	ISF >= 25	Established
DIBELS Letter Naming Fluency	LNF < 15	At Risk
	15 <= LNF < 27	Some Risk
	LNF >= 27	Low Risk
DIBELS Phoneme Segmentation Fluency	PSF < 7	At Risk
	7 <= PSF < 18	Some Risk
	PSF >= 18	Low Risk
DIBELS Nonsense Word Fluency	NWF < 5	At Risk
	5 <= NWF < 13	Some Risk
	NWF >= 13	Low Risk



Table 4

*Instructional Recommendations for Individual Patterns of Performance on Middle of Kindergarten DIBELS Benchmark Assessment*

Initial Sound Fluency	Letter Naming Fluency	Phoneme Segmentation Fluency	Pctile	Percent Meeting Later Goals				Incidence	Instructional Support Recommendation
				End K PSF	Mid 1 NWF	End 1 ORF	Avg.		
Deficit	At Risk	At Risk	3	18	14	19	17	More Common	Intensive - Needs Substantial Intervention
Deficit	At Risk	Some Risk	7	34	13	21	23	Unusual	Intensive - Needs Substantial Intervention
Emerging	At Risk	At Risk	9	28	20	28	25	More Common	Intensive - Needs Substantial Intervention
Emerging	At Risk	Some Risk	11	41	17	22	27	More Common	Intensive - Needs Substantial Intervention
Deficit	Some Risk	At Risk	13	24	28	48	33	More Common	Intensive - Needs Substantial Intervention
Deficit	At Risk	Low Risk	15	60	21	25	35	Unusual	Intensive - Needs Substantial Intervention
Deficit	Some Risk	Some Risk	16	37	30	40	36	Unusual	Strategic - Additional Intervention
Established	At Risk	At Risk	17	45	32	31	36	Extremely Rare	Strategic - Additional Intervention
Emerging	Some Risk	At Risk	18	37	30	49	38	Unusual	Strategic - Additional Intervention
Deficit	Low Risk	At Risk	20	30	37	58	42	Unusual	Strategic - Additional Intervention
Established	Some Risk	At Risk	21	42	38	49	43	Extremely Rare	Strategic - Additional Intervention
Emerging	Some Risk	Some Risk	22	47	36	51	45	More Common	Strategic - Additional Intervention
Established	At Risk	Some Risk	24	52	38	47	45	Extremely Rare	Strategic - Additional Intervention
Emerging	At Risk	Low Risk	26	75	29	36	47	More Common	Strategic - Additional Intervention
Deficit	Low Risk	Some Risk	28	43	42	68	51	Unusual	Strategic - Additional Intervention
Deficit	Some Risk	Low Risk	29	66	41	55	54	Extremely Rare	Strategic - Additional Intervention
Emerging	Low Risk	At Risk	31	42	50	70	54	More Common	Strategic - Additional Intervention
Established	Some Risk	Some Risk	33	55	44	64	54	Unusual	Strategic - Additional Intervention
Established	At Risk	Low Risk	34	82	34	47	54	Unusual	Strategic - Additional Intervention
Emerging	Low Risk	Some Risk	38	53	53	80	62	More Common	Strategic - Additional Intervention
Emerging	Some Risk	Low Risk	44	82	47	59	63	More Common	Strategic - Additional Intervention
Established	Low Risk	At Risk	47	51	58	89	66	Extremely Rare	Benchmark - At grade level
Established	Low Risk	Some Risk	49	58	62	87	69	More Common	Benchmark - At grade level
Deficit	Low Risk	Low Risk	52	74	60	75	70	Unusual	Benchmark - At grade level
Established	Some Risk	Low Risk	54	88	56	69	71	More Common	Benchmark - At grade level
Emerging	Low Risk	Low Risk	64	88	68	83	80	More Common	Benchmark - At grade level
Established	Low Risk	Low Risk	86	93	80	93	89	More Common	Benchmark - At grade level

*Note.* Percent meeting goal is the conditional percent of children who meet the end of first grade goal of 40 or more on DIBELS ORF. Based on *n* of approximately 32000 students, 638 schools, and 255 school districts.

End of Kindergarten Instructional Recommendation

The end of kindergarten cut points for risk and established skills are summarized in Table 5, and the instructional recommendations for patterns of DIBELS performance at the end of kindergarten are summarized in Table 6. At the end of kindergarten, it appears to be important for students to have established phonemic awareness on PSF and to be at low risk on NWF with a score of 25 or higher to be confident that the student has the odds in favor of achieving subsequent literacy goals. For most students who achieved 35 on PSF and 25 on NWF, the odds of achieving first grade reading outcomes were 68 percent to 92 percent. Only those students who had the pattern PSF established, NWF low risk, and LNF at risk (an unusual pattern) had odds of about 50 – 50 of achieving subsequent literacy goals.

Table 5

*Descriptive Levels of Performance in End of Kindergarten*

Measure	Performance	Descriptor
DIBELS Letter Naming Fluency	LNF < 29	At Risk
	29 <= LNF < 40	Some Risk
	LNF >= 40	Low Risk
DIBELS Phoneme Segmentation Fluency	PSF < 10	Deficit
	10 <= PSF < 35	Emerging
	PSF >= 35	Established
DIBELS Nonsense Word Fluency	NWF < 15	At Risk
	15 <= NWF < 25	Some Risk
	NWF >= 25	Low Risk

Table 6

*Instructional Recommendations for Individual Patterns of Performance on End of Kindergarten DIBELS Benchmark Assessment*

Letter Naming Fluency	Phoneme Segmentation Fluency	Nonsense Word Fluency	Petile	Percent Meeting Later Goals			Incidence	Instructional Support Recommendation
				Middle 1 NWF	End 1 DORF	Average		
At Risk	Deficit	At Risk	2	8	19	13	More Common	Intensive - Needs Substantial Intervention
At Risk	Emerging	At Risk	6	15	24	19	More Common	Intensive - Needs Substantial Intervention
At Risk	Established	At Risk	10	17	25	21	More Common	Intensive - Needs Substantial Intervention
At Risk	Deficit	Some Risk	12	21	27	24	Extremely Rare	Intensive - Needs Substantial Intervention
At Risk	Established	Some Risk	13	27	33	30	More Common	Intensive - Needs Substantial Intervention
At Risk	Emerging	Some Risk	15	27	37	32	Unusual	Intensive - Needs Substantial Intervention
Some Risk	Deficit	At Risk	16	22	43	33	Unusual	Intensive - Needs Substantial Intervention
At Risk	Emerging	Low Risk	17	28	39	33	Extremely Rare	Strategic - Additional Intervention
Some Risk	Established	At Risk	18	26	46	36	Unusual	Strategic - Additional Intervention
Some Risk	Emerging	At Risk	20	28	46	37	More Common	Strategic - Additional Intervention
Some Risk	Deficit	Some Risk	22	24	56	40	Extremely Rare	Strategic - Additional Intervention
Some Risk	Emerging	Some Risk	23	35	55	45	More Common	Strategic - Additional Intervention
At Risk	Established	Low Risk	25	40	52	46	Unusual	Strategic - Additional Intervention
Low Risk	Deficit	At Risk	26	34	64	49	Extremely Rare	Strategic - Additional Intervention
At Risk	Deficit	Low Risk	27	36	63	49	Extremely Rare	Strategic - Additional Intervention
Low Risk	Emerging	At Risk	28	34	65	50	Unusual	Strategic - Additional Intervention
Some Risk	Established	Some Risk	30	41	60	50	More Common	Strategic - Additional Intervention
Some Risk	Deficit	Low Risk	33	41	62	51	Extremely Rare	Strategic - Additional Intervention
Low Risk	Deficit	Some Risk	33	41	65	53	Extremely Rare	Strategic - Additional Intervention
Some Risk	Emerging	Low Risk	35	53	65	59	More Common	Strategic - Additional Intervention
Some Risk	Established	Low Risk	38	56	68	62	More Common	Benchmark - At grade level
Low Risk	Established	At Risk	42	46	81	63	Unusual	Benchmark - At grade level
Low Risk	Emerging	Some Risk	44	51	79	65	More Common	Benchmark - At grade level
Low Risk	Established	Some Risk	48	52	79	66	More Common	Benchmark - At grade level
Low Risk	Deficit	Low Risk	52	59	80	69	Extremely Rare	Benchmark - At grade level
Low Risk	Emerging	Low Risk	55	68	87	78	More Common	Benchmark - At grade level
Low Risk	Established	Low Risk	79	81	92	87	More Common	Benchmark - At grade level

*Note.* Percent meeting goal is the conditional percent of children who meet the end of first grade goal of 40 or more on DIBELS ORF. Based on *n* of approximately 32000 students, 638 schools, and 255 school districts.

Beginning of First Grade Instructional Recommendation

The cutoff scores for risk and established skills for the beginning of first grade are summarized in Table 7. A summer effect is apparent in that NWF of 25 is required for low risk at the end of kindergarten, but NWF of 24 is sufficient for low risk at the beginning of first grade. A similar pattern is noticeable for LNF. The instructional recommendation for each pattern of performance at the beginning of first grade is provided in Table 8. As with the end of kindergarten patterns, established skills on PSF and low risk on NWF appear to be important instructional targets for students to be on track for reading outcomes. Even for students who are at risk on LNF, if they achieve the 35 on PSF and 24 on NWF, the odds are 56 percent of achieving the first grade reading goal (an unusual pattern with a strategic support instructional recommendation).

Table 7

*Descriptive Levels of Performance in Beginning of First Grade*

Measure	Performance	Descriptor
DIBELS Letter Naming Fluency	LNF < 25	At Risk
	25 <= LNF < 37	Some Risk
	LNF >= 37	Low Risk
DIBELS Phoneme Segmentation Fluency	PSF < 10	Deficit
	10 <= PSF < 35	Emerging
	PSF >= 35	Established
DIBELS Nonsense Word Fluency	NWF < 13	At Risk
	13 <= NWF < 24	Some Risk
	NWF >= 24	Low Risk

Table 8

*Instructional Recommendations for Individual Patterns of Performance on Beginning First Grade DIBELS Benchmark Assessment*

Letter Naming Fluency	Phoneme Segmentation Fluency	Nonsense Word Fluency	Petite	Percent Meeting Later Goals			Incidence	Instructional Support Recommendation
				Middle 1 NWF	End 1 DORF	Average		
At Risk	Deficit	At Risk	3	6	13	10	More Common	Intensive - Needs Substantial Intervention
At Risk	Emerging	At Risk	8	10	18	14	More Common	Intensive - Needs Substantial Intervention
At Risk	Established	At Risk	11	11	20	16	Unusual	Intensive - Needs Substantial Intervention
At Risk	Deficit	Some Risk	12	15	27	21	Unusual	Intensive - Needs Substantial Intervention
Some Risk	Deficit	At Risk	13	12	31	21	Unusual	Intensive - Needs Substantial Intervention
At Risk	Emerging	Some Risk	15	20	32	26	More Common	Strategic - Additional Intervention
Some Risk	Emerging	At Risk	17	18	37	27	Unusual	Strategic - Additional Intervention
Some Risk	Established	At Risk	19	20	35	28	Unusual	Strategic - Additional Intervention
At Risk	Established	Some Risk	20	25	32	28	Unusual	Strategic - Additional Intervention
Low Risk	Deficit	At Risk	21	22	46	34	Extremely Rare	Strategic - Additional Intervention
Some Risk	Deficit	Some Risk	22	21	47	34	Unusual	Strategic - Additional Intervention
Some Risk	Emerging	Some Risk	24	26	47	37	More Common	Strategic - Additional Intervention
At Risk	Deficit	Low Risk	26	30	45	37	Extremely Rare	Strategic - Additional Intervention
Some Risk	Established	Some Risk	28	29	49	39	More Common	Strategic - Additional Intervention
Low Risk	Emerging	At Risk	30	29	57	43	Unusual	Strategic - Additional Intervention
Low Risk	Established	At Risk	31	33	59	46	Extremely Rare	Strategic - Additional Intervention
At Risk	Emerging	Low Risk	31	40	54	47	Extremely Rare	Strategic - Additional Intervention
Some Risk	Deficit	Low Risk	32	37	61	49	Extremely Rare	Strategic - Additional Intervention
At Risk	Established	Low Risk	33	43	56	49	Unusual	Strategic - Additional Intervention
Low Risk	Deficit	Some Risk	34	35	66	50	Unusual	Strategic - Additional Intervention
Low Risk	Emerging	Some Risk	36	36	72	54	More Common	Benchmark - At grade level
Low Risk	Established	Some Risk	40	41	71	56	More Common	Benchmark - At grade level
Some Risk	Emerging	Low Risk	44	46	68	57	More Common	Benchmark - At grade level
Some Risk	Established	Low Risk	47	51	66	59	More Common	Benchmark - At grade level
Low Risk	Deficit	Low Risk	51	51	76	64	Unusual	Benchmark - At grade level
Low Risk	Emerging	Low Risk	56	66	86	76	More Common	Benchmark - At grade level
Low Risk	Established	Low Risk	81	78	90	84	More Common	Benchmark - At grade level

*Note.* Percent meeting goal is the conditional percent of children who meet the end of first grade goal of 40 or more on DIBELS ORF. Based on *n* of approximately 32000 students, 638 schools, and 255 school districts.

### Middle of First Grade Instructional Recommendation

In the middle of first grade, the cut scores for established skills and risk status are summarized in Table 9. The instructional recommendations corresponding to patterns of performance in the middle of first grade are summarized in Table 10. The benchmark goal for the middle of first grade is a score of 50 or more on the NWF measure. For the most part, it is extremely rare for a student to have established skills on NWF and less than established skills on PSF. In addition to established skills on NWF, it also appears important that students are beginning to apply those skills in connected text reading at least 20 correct words per minute on the DORF measure. For students with established skills on NWF and who are reading at least 20 words correct per minute, the odds of achieving the first grade reading outcomes are 97 to 100 percent. However, even if students have established skills on PSF and NWF, if they are reading fewer than 20 words correct per minute, their odds of achieving the first grade reading goal fall to 24 or 49 percent (with an instructional recommendation of strategic support). Students with combined risk factors in NWF and DORF are likely to require intensive intervention to achieve first grade reading outcomes.

In the middle of first grade the ordering of DIBELS performance patterns does not follow exactly the conditional percent achieving reading outcomes. In particular, 100 percent of students with a deficit on PSF, established on NWF, and low risk on DORF achieved the first grade reading goal. However, that pattern was extremely rare and we decided to rank it below the similar patterns with higher phonemic awareness skills. A similar change in ordering of patterns was done for emerging NWF and low risk on DORF.

Table 9

*Descriptive Levels of Performance in Middle of First Grade*

Measure	Performance	Descriptor
DIBELS Phoneme Segmentation Fluency	PSF < 10	Deficit
	10 <= PSF < 35	Emerging
	PSF >= 35	Established
DIBELS Nonsense Word Fluency	NWF < 30	Deficit
	30 <= NWF < 50	Emerging
	NWF >= 50	Established
DIBELS Oral Reading Fluency	DORF < 8	At Risk
	8 <= DORF < 20	Some Risk
	DORF >= 20	Low Risk

Table 10

*Instructional Recommendations for Individual Patterns of Performance on Middle First Grade DIBELS Benchmark Assessment*

Phoneme Segmentation Fluency	Nonsense Word Fluency	DIBELS Oral Reading Fluency	Percentile	Percent Meeting End DORF Goal	Incidence	Instructional Support Recommendation
Deficit	Deficit	At Risk	1	1	Unusual	Intensive - Needs Substantial Intervention
Emerging	Deficit	At Risk	3	2	More Common	Intensive - Needs Substantial Intervention
Established	Deficit	At Risk	6	2	More Common	Intensive - Needs Substantial Intervention
Deficit	Emerging	At Risk	8	4	Extremely Rare	Intensive - Needs Substantial Intervention
Emerging	Emerging	At Risk	8	7	Unusual	Intensive - Needs Substantial Intervention
Established	Emerging	At Risk	10	8	More Common	Intensive - Needs Substantial Intervention
Deficit	Deficit	Some Risk	12	14	Extremely Rare	Intensive - Needs Substantial Intervention
Emerging	Deficit	Some Risk	13	17	More Common	Intensive - Needs Substantial Intervention
Established	Deficit	Some Risk	15	18	More Common	Intensive - Needs Substantial Intervention
Deficit	Established	At Risk	17	20	Extremely Rare	Strategic - Additional Intervention
Emerging	Established	At Risk	17	23	Extremely Rare	Strategic - Additional Intervention
Established	Established	At Risk	17	24	Extremely Rare	Strategic - Additional Intervention
Deficit	Emerging	Some Risk	17	28	Extremely Rare	Strategic - Additional Intervention
Emerging	Emerging	Some Risk	19	29	More Common	Strategic - Additional Intervention
Established	Emerging	Some Risk	26	30	More Common	Strategic - Additional Intervention
Deficit	Established	Some Risk	32	31	Extremely Rare	Strategic - Additional Intervention
Emerging	Established	Some Risk	32	42	Extremely Rare	Strategic - Additional Intervention
Established	Established	Some Risk	35	49	More Common	Strategic - Additional Intervention
Deficit	Emerging	Low Risk	38	73	Extremely Rare	Strategic - Additional Intervention
Deficit	Deficit	Low Risk	38	79	Extremely Rare	Strategic - Additional Intervention
Emerging	Deficit	Low Risk	38	73	Extremely Rare	Strategic - Additional Intervention
Established	Deficit	Low Risk	39	74	Unusual	Strategic - Additional Intervention
Emerging	Emerging	Low Risk	42	87	More Common	Benchmark - At grade level
Established	Emerging	Low Risk	49	86	More Common	Benchmark - At grade level
Deficit	Established	Low Risk	56	100	Extremely Rare	Benchmark - At grade level
Emerging	Established	Low Risk	58	97	More Common	Benchmark - At grade level
Established	Established	Low Risk	80	97	More Common	Benchmark - At grade level

*Note.* Percent meeting goal is the conditional percent of children who meet the end of first grade goal of 40 or more on DIBELS ORF. Based on  $n = 34794$  students, 666 schools, 266 school districts.



End of First Grade Instructional Recommendation

At the end of first grade, instructional recommendations are based directly on DORF reading level. Students who meet the DORF goal of 40 or more words correct per minute are likely to have established PSF and NWF skills as well. Reading 40 or more words correct per minute and displaying a deficit in either PSF or NWF is an extremely rare pattern, and indicates a need to retest the students' skills on PSF and NWF if there is any concern about their performance. Students who meet the end of first grade benchmark goal on DORF have odds of 75 to 92 percent of achieving the second grade goal for more common patterns of performance. Students who are reading below 20 words correct per minute at the end of first grade are at risk for reading difficulty in second grade with odds of 10 to 18 percent of achieving the second grade reading goal for more common patterns. For students reading less than 20 words correct at the end of first grade, substantial, intensive instructional intervention is recommended.

Table 11

*Descriptive Levels of Performance in End of First Grade*

Measure	Performance	Descriptor
DIBELS Phoneme Segmentation Fluency	PSF < 10	Deficit
	10 <= PSF < 35	Emerging
	PSF >= 35	Established
DIBELS Nonsense Word Fluency	NWF < 30	Deficit
	30 <= NWF < 50	Emerging
	NWF >= 50	Established
DIBELS Oral Reading Fluency	DORF < 20	At Risk
	20 <= DORF < 40	Some Risk
	DORF >= 40	Low Risk

Table 12

*Instructional Recommendations for Individual Patterns of Performance on End of First Grade DIBELS Benchmark Assessment*

Phoneme Segmentation Fluency	Nonsense Word Fluency	DIBELS Oral Reading Fluency	Percentile	Percent Meeting End Second Goal	Incidence	Instructional Support Recommendation
Deficit	Deficit	At Risk	0	4	Extremely Rare	Intensive - Needs Substantial Intervention
Emerging	Deficit	At Risk	1	3	Unusual	Intensive - Needs Substantial Intervention
Established	Deficit	At Risk	2	5	Unusual	Intensive - Needs Substantial Intervention
Deficit	Emerging	At Risk	3	0	Extremely Rare	Intensive - Needs Substantial Intervention
Emerging	Emerging	At Risk	4	8	Unusual	Intensive - Needs Substantial Intervention
Established	Emerging	At Risk	7	10	More Common	Intensive - Needs Substantial Intervention
Deficit	Established	At Risk	9	0	Extremely Rare	Intensive - Needs Substantial Intervention
Emerging	Established	At Risk	9	24	Extremely Rare	Intensive - Needs Substantial Intervention
Established	Established	At Risk	11	18	More Common	Intensive - Needs Substantial Intervention
Deficit	Deficit	Some Risk	12	0	Extremely Rare	Strategic - Additional Intervention
Emerging	Deficit	Some Risk	13	35	Extremely Rare	Strategic - Additional Intervention
Established	Deficit	Some Risk	13	20	Extremely Rare	Strategic - Additional Intervention
Deficit	Emerging	Some Risk	14	0	Extremely Rare	Strategic - Additional Intervention
Emerging	Emerging	Some Risk	14	36	Unusual	Strategic - Additional Intervention
Established	Emerging	Some Risk	18	31	More Common	Strategic - Additional Intervention
Deficit	Established	Some Risk	21	0	Extremely Rare	Strategic - Additional Intervention
Emerging	Established	Some Risk	22	48	Unusual	Strategic - Additional Intervention
Established	Established	Some Risk	28	47	More Common	Strategic - Additional Intervention
Deficit	Deficit	Low Risk	35	100	Extremely Rare	Benchmark - At grade level
Emerging	Deficit	Low Risk	35	65	Extremely Rare	Benchmark - At grade level
Established	Deficit	Low Risk	35	65	Extremely Rare	Benchmark - At grade level
Deficit	Emerging	Low Risk	35	0	Extremely Rare	Benchmark - At grade level
Emerging	Emerging	Low Risk	36	86	Unusual	Benchmark - At grade level
Established	Emerging	Low Risk	39	75	More Common	Benchmark - At grade level
Deficit	Established	Low Risk	42	75	Extremely Rare	Benchmark - At grade level
Emerging	Established	Low Risk	44	92	More Common	Benchmark - At grade level
Established	Established	Low Risk	74	92	More Common	Benchmark - At grade level

*Note.* Percent meeting goal is the conditional percent of children who meet the end of second grade goal of 90 or more on DIBELS ORF. Based on  $n = 6239$  students, 64 participating districts, and 137 participating schools.

### Beginning Second Grade Instructional Recommendation

The recommended beginning of second grade cut scores for low risk and at risk are reported in Table 13 along with the accompanying instructional recommendation. The beginning of second grade cut scores are not directly comparable to the end of first grade cutoffs. Both the at risk score and the low risk score are higher at the beginning of second grade. In part, the higher scores are due to the need for continual growth in reading skills in order for a student to be on track for successful reading outcomes. The end of first grade encompasses the final 3 months of first grade. The beginning of second grade includes the first 3 months of second grade. Students should be making continual progress over that span of time. The higher cutoff scores are also due to more rigorous cutoffs. At the end of first grade, the cutoffs of 20 and 40 correspond to the 13<sup>th</sup> and 35<sup>th</sup> percentiles, respectively. In the beginning of second grade, the cutoffs of 26 and 44 correspond to the 20<sup>th</sup> and 40<sup>th</sup> percentiles, respectively. However, the odds of achieving second grade reading goals are similar for students with an intensive instructional recommendation: 6 percent at end of first grade, 10 percent in beginning of second. The odds also are similar for students with a benchmark instructional recommendation: 90% at end of first grade, 89 percent in the beginning of second grade. The odds of achieving subsequent benchmark goals were the primary consideration in establishing cutoff scores.

Table 13

*Descriptive Levels of Performance in Beginning of Second Grade*

Performance	Descriptor	Conditional Percent Reading 90 or More on End of Second Grade DIBELS ORF	Instructional Recommendation
DORF < 26	At Risk	6%	Intensive - Needs Substantial Intervention
26 <= DORF < 44	Some Risk	35%	Strategic - Additional Intervention
DORF >= 44	Low Risk	89%	Benchmark - At Grade Level

*Note.* Based on  $n = 13,612$  students, 107 participating districts, and 262 participating schools.

Middle of Second Grade Instructional Recommendation

The cutoff scores for levels of risk and corresponding instructional recommendations for the middle of second grade are reported in Table 14. A consistent pattern emerges in second and later grades. When students are on track for successful reading outcomes (i.e., at benchmark or low risk status), the odds are strongly in favor of achieving subsequent goals (about 90 percent) as intended with the decision rules. The odds are strongly against achieving subsequent goals (less than 10 percent unless they receive very intensive intervention) for students identified as at risk or as needing intensive intervention. Both of these odds are consistent with the primary consideration in establishing cutoffs for DIBELS benchmark assessment. However, for the strategic instructional recommendation, the intent was for the odds to be about 50 – 50 of achieving subsequent literacy goals, as obtained for earlier grade levels. Beginning at about the end of first grade, the odds of achieving subsequent goals for students identified as needing strategic instructional support fall increasingly below 50 percent.

Table 14

*Descriptive Levels of Performance in Middle of Second Grade*

Performance	Descriptor	Percent Achieving Second Grade Goal	Instructional Recommendation
DORF < 52	At Risk	8%	Intensive - Needs Substantial Intervention
52 <= DORF < 68	Some Risk	38%	Strategic - Additional Intervention
DORF >= 68	Low Risk	90%	Benchmark - At Grade Level

*Note.* Based on  $n = 15,806$  students, 120 participating districts, and 299 participating schools.

End of Second Grade Instructional Recommendation

The cutoff scores for levels of risk and corresponding instructional recommendations for the end of second grade are reported in Table 15. At the end of second grade, the crucial outcome is end of third grade reading skills. With each subsequent grade, the predictive utility becomes stronger – meaning that we can have more confidence in our decisions but also meaning that it become increasingly difficult to thwart the predictions of reading success or difficulty.

Table 15

*Descriptive Levels of Performance in End of Second Grade*

Performance	Descriptor	Percent Achieving Third Grade Goal	Instructional Recommendation
DORF < 70	At Risk	7%	Intensive - Needs Substantial Intervention
70 <= DORF < 90	Some Risk	34%	Strategic - Additional Intervention
DORF >= 90	Low Risk	89%	Benchmark - At Grade Level

*Note.* Based on  $n = 3,758$  students, 31 participating districts, and 79 participating schools.

Beginning Third Grade Instructional Recommendation

The cutoff scores for levels of risk and corresponding instructional recommendations for the beginning of third grade are reported in Table 16. For students identified as at risk at the beginning of third grade, about 20 percent from the system-wide percentile ranks (Good, Wallin, Simmons, Kameenui, & Kaminski, 2002), the odds of achieving the end of third grade reading outcome are of serious concern. For students identified as low risk with a benchmark instructional recommendation, about 60 percent based on the system-wide percentile ranks, the odds of achieving the end of third grade reading outcome are strongly in their favor.

Table 16

*Descriptive Levels of Performance in Beginning Third Grade*

Performance	Descriptor	Percent Achieving Third Grade Goal	Instructional Recommendation
DORF < 53	At Risk	3%	Intensive - Needs Substantial Intervention
53 <= DORF < 77	Some Risk	34%	Strategic - Additional Intervention
DORF >= 77	Low Risk	90%	Benchmark - At Grade Level

*Note.* Based on  $n = 9,662$  students, 78 participating districts, and 180 participating schools.

Middle Third Grade Instructional Recommendation

The cutoff scores for levels of risk and corresponding instructional recommendations for the middle of third grade are reported in Table 17. The cutoff scores again correspond to the 20<sup>th</sup> and 40<sup>th</sup> percentile based on the system-wide percentile ranks (Good, Wallin, Simmons, Kameenui, & Kaminski, 2002).

Table 17

*Descriptive Levels of Performance in the Middle of Third Grade*

Performance	Descriptor	Percent Achieving Third Grade Goal	Instructional Recommendation
DORF < 67	At Risk	3%	Intensive - Needs Substantial Intervention
67 <= DORF < 92	Some Risk	27%	Strategic - Additional Intervention
DORF >= 92	Low Risk	90%	Benchmark - At Grade Level

*Note.* Based on  $n = 11,811$  students, 91 participating districts, and 219 participating schools.

End Third Grade Instructional Recommendation

The cutoff scores for levels of risk and corresponding instructional recommendations for the end of third grade are reported in Table 18. The cutoff scores correspond to the 16th and 40th percentile based on the system-wide percentile ranks (Good, Wallin, Simmons, Kame'enui, & Kaminski, 2002). In Table 18, the odds of achieving subsequent reading goals are represented by a question mark because the most important and meaningful literacy outcome is likely to vary from state to state. For example, Good, Simmons, & Kame'enui (2001) reported that the odds of receiving a rating of “meets expectations” or “exceeds expectations” on the Oregon Statewide Assessment Test were 96 percent if students scored in the low risk or benchmark range on the DORF at the end of third grade. Sibley, Biwer, & Hesch, (2001) reported that the odds of meeting or exceeding standards on the Illinois State Assessment Test were 99 percent for students scoring in the low risk or benchmark range on the end of third grade DIBELS benchmark assessment. Similar results were found by Linner (2001, January).

The DIBELS Data System has the capability to include an external outcome measure that can be used to evaluate the predictive utility of the DORF. Each state assessment should be

examined in this way by users of the DIBELS benchmark assessment to evaluate the predictive utility of the measures for their state context.

Table 18

*Descriptive Levels of Performance in the End of Third Grade*

Performance	Descriptor	Percent Achieving Subsequent Reading Goal	Instructional Recommendation
DORF < 80	At Risk	?	Intensive - Needs Substantial Intervention
80 <= DORF < 110	Some Risk	?	Strategic - Additional Intervention
DORF >= 110	Low Risk	?	Benchmark - At Grade Level

Discussion

This technical report is intended to make public the decision rules used in the DIBELS Data System, and to summarize evidence on the predictive utility of the DIBELS cutoffs both as indicators of risk and as instructional goals. At any point in time, students who are at risk at that point in time have the odds seriously against achieving subsequent early literacy goals – unless they are provided with substantial, sustained, intensive intervention support. But, even more important, for students prior to that point in time, the benchmark goal represents an instructional target that will establish the odds in favor of achieving subsequent early literacy goals.

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