



## Predictive Validity of Pathways of Progress™ Decisions for RTI

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## Agenda

- Rationale for & importance of progress monitoring for RtI
- Desirable qualities of progress monitoring
- Student Progress Percentiles: Pathways of Progress™
- Research Questions
- Procedures
- Results
- Discussion & Questions

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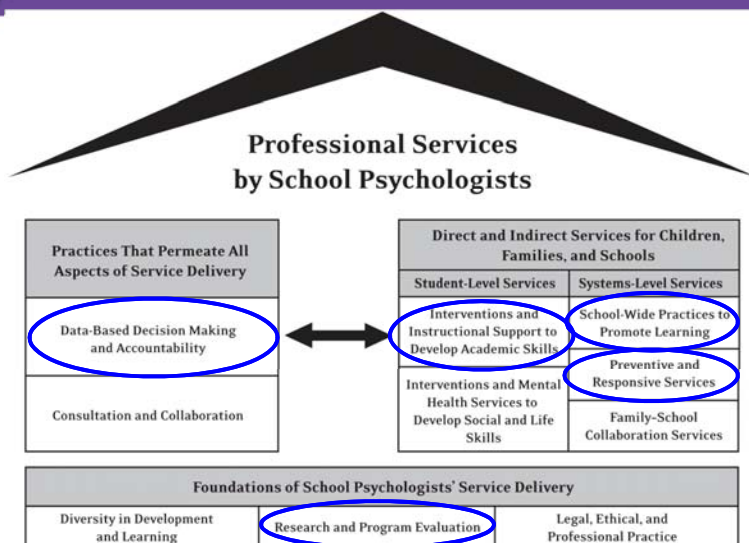
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## NASP Practice Model



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## Essential Elements of RTI

Although there is no specific definition of RTI, essential elements can be found when we take a look at how states, schools, and districts fit RTI into their work. In general, RTI includes:

- ▶ **screening** children within the general curriculum,
- ▶ tiered instruction of **increasing intensity**,
- ▶ evidence-based **instruction**,
- ▶ close **monitoring of student progress**, and
- ▶ informed **decision making** regarding next steps for individual students.

<http://www.parentcenterhub.org/repository/rti/#elements>  
Accessed: 1/22/2015

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## What is progress monitoring and formative evaluation?

To implement progress monitoring, the student's **current levels of performance** are determined and **goals are identified** for learning that will take place over time. The student's academic performance is **measured on a regular basis (weekly or monthly)**. Progress toward meeting the student's goals is measured by **comparing expected and actual rates of learning**. Based on these measurements, **teaching is adjusted** as needed. Thus, the student's progression of achievement is monitored and instructional techniques are adjusted to meet the individual students learning needs.

<http://www.studentprogress.org/progresmon.asp#2>  
Accessed: 1/22/2015

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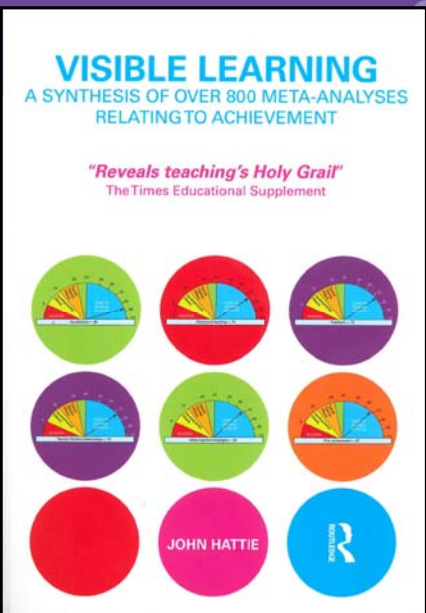
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John Hattie (2009) evaluated more than 800 meta-analyses of 138 influences on student achievement:

- Student
- Teacher
- Teaching
- Curricula
- School
- Home

Influences on achievement we can do something about.



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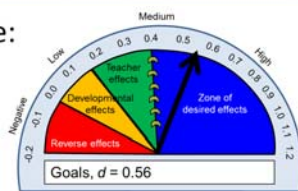
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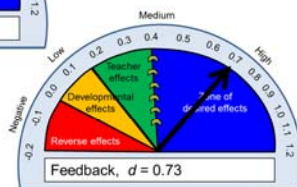
## Selected Hattie (2009) Findings...

Desirable *Goals* are:

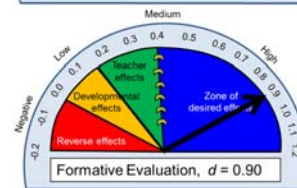
Meaningful,  
Attainable,  
Ambitious



Feedback to teachers & students: Is what we are doing working?



Progress Monitoring and Formative evaluation is the 3<sup>rd</sup> largest effect on student achievement out of 138 possible influences.



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## DIBELS®, Formative Assessment, Progress Monitoring, and RTI

DIBELS® and the Outcomes Driven Model were developed from the ground up to inform Response to Intervention Decisions with frequent progress monitoring toward meaningful goals.

From the very first DIBELS research proposal:

*"...Research is needed on curriculum-based measurement procedures that are valid and reliable for monitoring progress, evaluating the effectiveness of instruction, and identifying kindergarten and first grade students who are at-risk for academic problems." (Kaminski & Good, 1988)*

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## Elements of Defensible Progress Monitoring...

- Accurate measurement at the individual student level
- An interpretive framework within which to determine if progress is adequate or not.
- Progress decisions that demonstrate:
  - ✓ reliability (decision stability)
  - ✓ evidence of validity **Focus for today**
  - ✓ appropriate normative comparisons
  - ✓ decision utility (improved outcomes)

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## Purpose of Pathways of Progress™

- Assist in setting **ambitious, meaningful, attainable** student learning goals and evaluating progress.
- Provide a normative reference to consider when setting goals and evaluating progress.
- Clarify what rate of progress is typical, above typical, well above typical, as well as below typical or well-below typical.

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## Pathways of Progress™ based on Student Growth Percentile

Student growth percentiles provides a measure of "how (ab)normal a student's growth is by examining their current achievement relative to their academic peers -- those students beginning at the same place" (Betebenner, 2011, p. 3).

- **Compared to other students with the same beginning of year DIBELS Composite Score** of 178, at the middle of the year Robert's progress to 222 was between the 20<sup>th</sup> percentile and 40<sup>th</sup> percentile.
- Using Pathways of Progress, an individual student progress decision for Robert would be: **Below typical progress**

Additional information about Pathways of Progress is available at <http://dibels.org>

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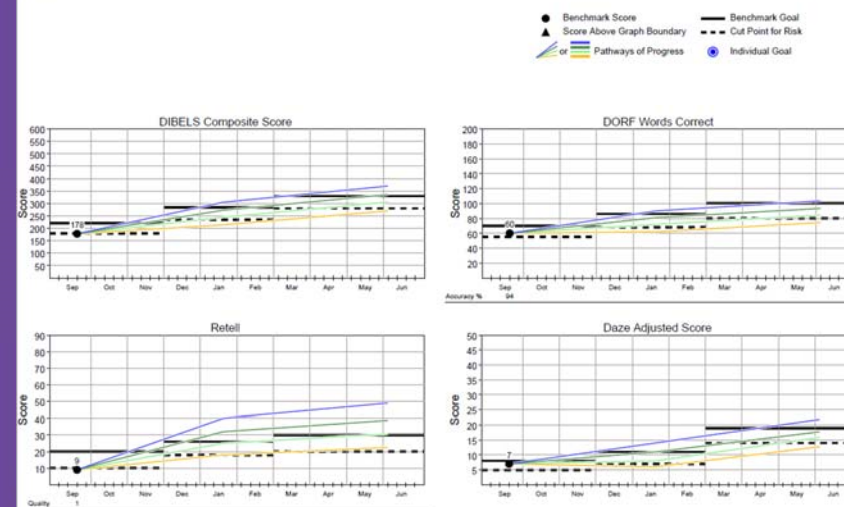


## Pathways Graphs: Robert

Name: Robert Mellow-Apricot  
StudentID: 2014-01  
School: Monroe Elementary School  
Class: Jallad 3 BOY  
Grade: Third Grade  
Year: 2014-2015

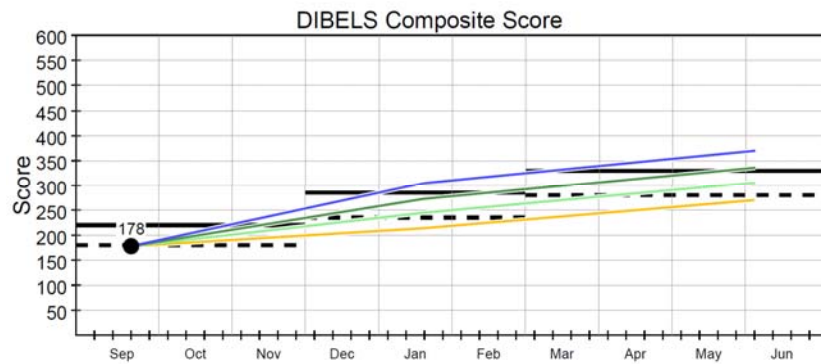
Student Pathways of Progress Graphs

DIBELSnet





## Pathways Graphs: Robert



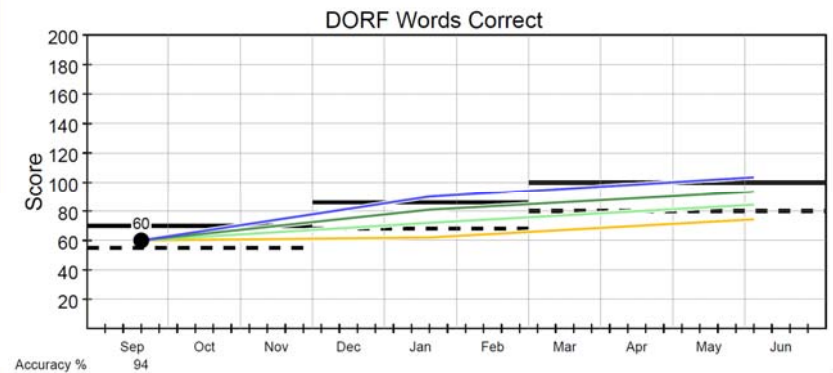
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## Pathways Graphs: Robert



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## Progress Monitoring

### DORF/Level 3 Progress Monitoring Scoring Booklet

DORF  
LEVEL  
3

Robert

Name: \_\_\_\_\_  
Student ID: \_\_\_\_\_  
School Year: \_\_\_\_\_

Month: \_\_\_\_\_  
Week: \_\_\_\_\_

Month: \_\_\_\_\_  
Week: \_\_\_\_\_

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## Reliability of Slope Metric and Level of Performance Based on the Last 3 Data Points

- Initial analysis of students who had at least 14 assessments over widely varying lengths of time.

Grade	N	OLS Slope of Progress			Moving Mean Pathways of Progress™		
		M	SD	Reliability	M	SD	Reliability
First	356	1.09	0.58	0.818	38.60	19.50	0.959
Second	2051	1.16	0.45	0.770	63.79	21.54	0.946
Third	843	0.61	0.27	0.550	70.85	21.84	0.947
Fourth	1010	0.55	0.29	0.566	87.43	20.83	0.944
Fifth	610	0.45	0.26	0.496	96.50	23.64	0.956

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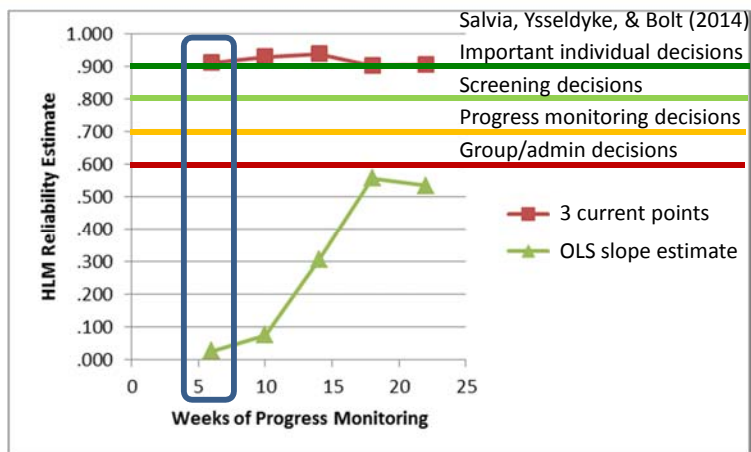
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## What we know...

### Reliability of 3 Current Points for Pathways



HLM estimates of the reliability of the individual student measure used to evaluate student progress at 6, 10, 14, 18, and 22 weeks.

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## Good Progress Monitoring Decisions

Good progress monitoring decisions are ones that enable educators to improve outcomes for students.

1. Good decisions about progress provide **timely** information to inform instruction.
2. Good decisions about progress are reasonably **stable** and reliable.
3. Good decisions about progress provide **instructionally relevant** information for individual students.
4. Good decisions about progress provide instructionally relevant information at a **systems level** to inform classroom instruction.

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## Pathways of Progress™

### Does it Matter?

- We know that the level of skills for a student at the beginning of the year is an important predictor of their later reading outcomes.
- One way to examine the importance of Pathways of Progress is to consider the contribution of Pathways to initial skills in predicting later outcomes over and above their initial skills.
- Beginning of kindergarten skills strongly predicts beginning of first grade skills.
- Do Pathways of Progress in kindergarten add to that prediction?
- What about third to fourth grade?

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## Purpose and Research Questions

The purpose of this study is to evaluate the predictive validity of Pathways of Progress for predicting future reading outcomes.

Research questions include:

1. For grades K - 5, what is the probability associated with different levels of progress (DIBELS Pathways of Progress) in achieving future outcomes given the level of initial skills (beginning of year DCS) for students right at the benchmark?
2. For grades K - 5, what is the probability associated with different levels of progress (DIBELS Pathways of Progress) in achieving future outcomes given the level of initial skills (beginning of year DCS) for students right at the cut point for risk?
3. What is the amount of additional variance accounted for by Pathways of Progress when predicting student outcomes in subsequent grades?

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## Methodology: Participants

Participants included students in DIBELSnet data systems who had complete DIBELS Next data for beginning- and end-of-year grade level assessments and beginning of year assessment for the next grade.

- Grade K – 1 Cohort: 36,022 students
- Grade 1 – 2 Cohort: 29,846 students
- Grade 2 – 3 Cohort: 25,266 students
- Grade 3 – 4 Cohort: 21,341 students
- Grade 4 – 5 Cohort: 20,185 students
- Grade 5 – 6 Cohort: 10,254 students

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## Methodology: Procedures/Analysis

- Student progress was assessed through logistic regression models.
- We evaluated the difference in the probability of meeting the next grade-level benchmark goals between each Pathway.
- A series of multiple logistic regression models at each grade level were used to examine proportion of variance in the outcome (next grade skills) explained by BOY initial skills and end of year Pathway of Progress.
- The additional variance explained by Pathways beyond initial skill was examined.

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## Results: Overview

- Logistic Regression Results (Figures 1 – 7)
- Summary data for Pathways 1, 3, & 5 (Tables 1 & 2)
- Amount of variance accounted for in the full model, and additional variance accounted for by Pathway (Table 3)

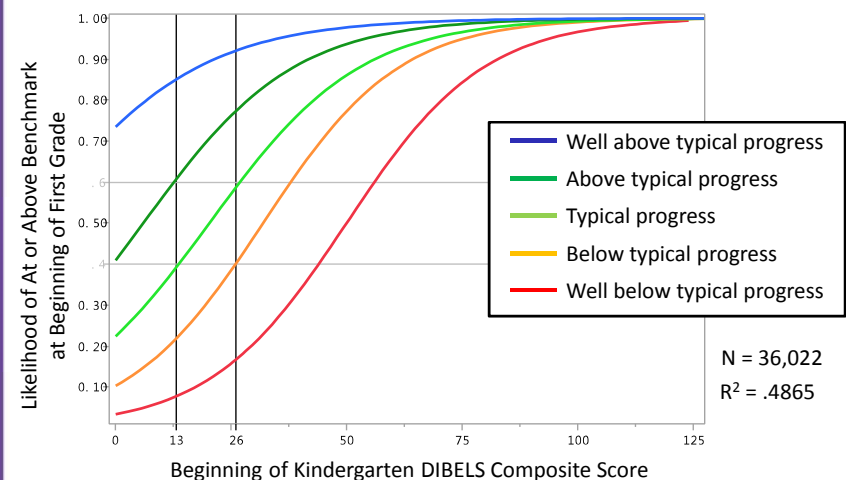
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## Grade K Predicting Beginning-Of-Year Grade 1



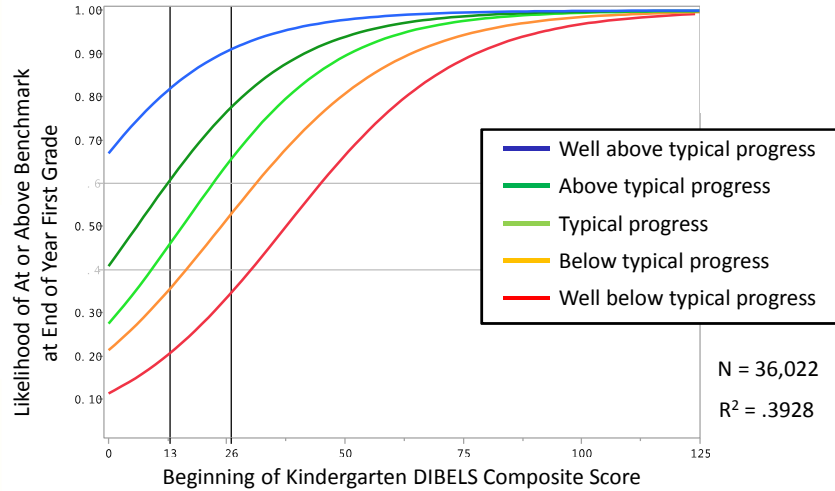
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## Grade K Predicting End-Of-Year Grade 1



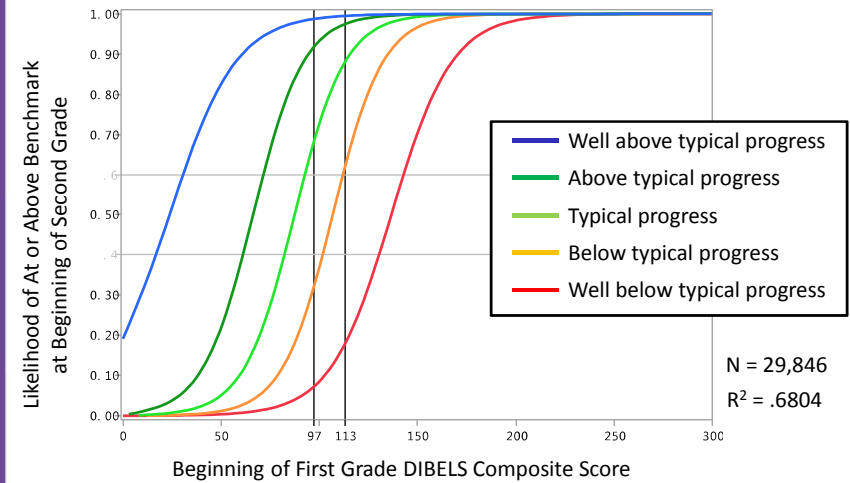
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## Grade 1 Predicting Beginning-Of-Year Grade 2



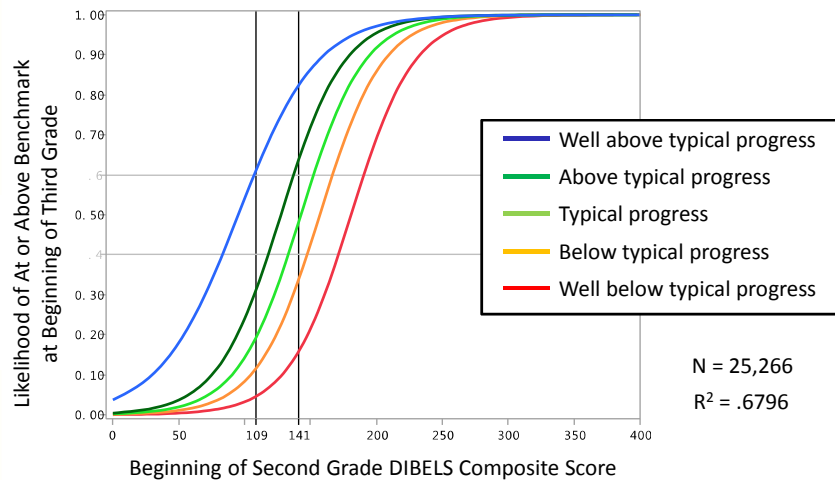
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## Grade 2 Predicting Beginning-Of-Year Grade 3



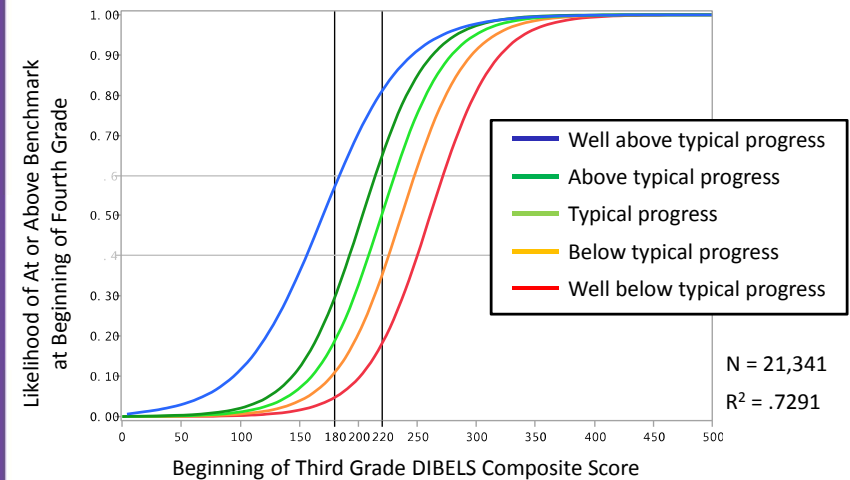
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## Grade 3 Predicting Beginning-Of-Year Grade 4



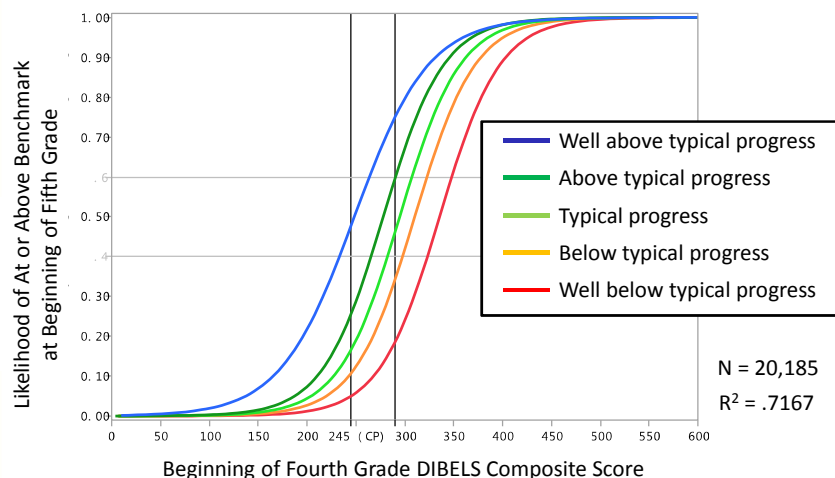
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## Grade 4 Predicting Beginning-Of-Year Grade 5



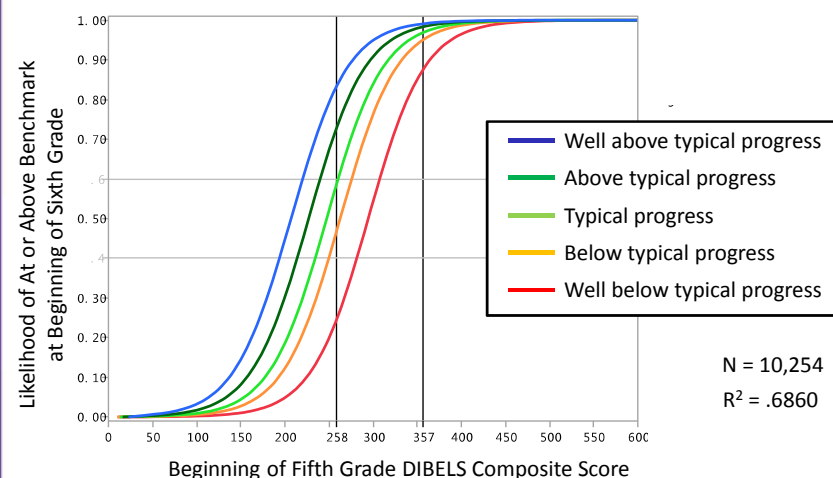
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## Grade 5 Predicting Beginning-Of-Year Grade 6



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## Table 1 Right at the Benchmark Goal

Likelihood of Being At or Above Benchmark at Subsequent Grade Given **Right at the Benchmark Goal** at Beginning of Current Grade

Predictor	Outcome	Well below typical progress	Typical progress	Well above typical progress
Grade K BOY	Grade 1 BOY	17%	57%	92%
Grade K BOY	Grade 1 EOY	35%	66%	91%
Grade 1 BOY	Grade 2 BOY	18%	88%	>99%
Grade 2 BOY	Grade 3 BOY	16%	48%	82%
Grade 3 BOY	Grade 4 BOY	18%	50%	81%
Grade 4 BOY	Grade 5 BOY	18%	46%	75%
Grade 5 BOY	Grade 6 BOY	88%	97%	99%

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## Table 2 Right At the Cut Point for Risk

Likelihood of Being At or Above Benchmark at Subsequent Grade Given **Right at the Cut Point for Risk** at Beginning of Current Grade

Predictor	Outcome	Well below typical progress	Typical progress	Well above typical progress
Grade K BOY	Grade 1 BOY	8%	39%	85%
Grade K BOY	Grade 1 EOY	21%	46%	82%
Grade 1 BOY	Grade 2 BOY	7%	68%	98%
Grade 2 BOY	Grade 3 BOY	5%	19%	61%
Grade 3 BOY	Grade 4 BOY	5%	19%	57%
Grade 4 BOY	Grade 5 BOY	5%	17%	48%
Grade 5 BOY	Grade 6 BOY	24%	58%	83%

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## Variance Explained—Table 3

Table 3. Additional Variance Explained in Reading Outcomes by Pathways of Progress

Predictor	Outcome	Total Model R <sup>2</sup>	Additional Variance Explained by Pathway <sup>1</sup>
Grade K BOY	Grade 1 BOY	49%	25%
Grade K BOY	Grade 1 EOY	39%	15%
Grade 1 BOY	Grade 2 BOY	68%	35%
Grade 2 BOY	Grade 3 BOY	69%	7%
Grade 3 BOY	Grade 4 BOY	73%	5%
Grade 4 BOY	Grade 5 BOY	72%	5%
Grade 5 BOY	Grade 6 BOY	69%	5%

Note: Model R<sup>2</sup> is the Nagelkerke R<sup>2</sup>.

<sup>1</sup>All pathways contributions are significant,  $p < .001$ .

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## Analysis of Pathways of Progress Effect on Mean Future Reading Skills

- What about average performance on future reading assessments?
- We looked more closely at the K-1 Cohort and the 3-4 Cohort to examine Pathways of Progress differences in mean DIBELS Composite Scores given the student's broad level of initial reading skills.
  - Well below benchmark
  - Below benchmark
  - Just at benchmark (benchmark goal to 59<sup>th</sup> percentile)
  - Above benchmark (60<sup>th</sup> percentile to 79<sup>th</sup> percentile)
  - Well above benchmark (80<sup>th</sup> percentile and above)

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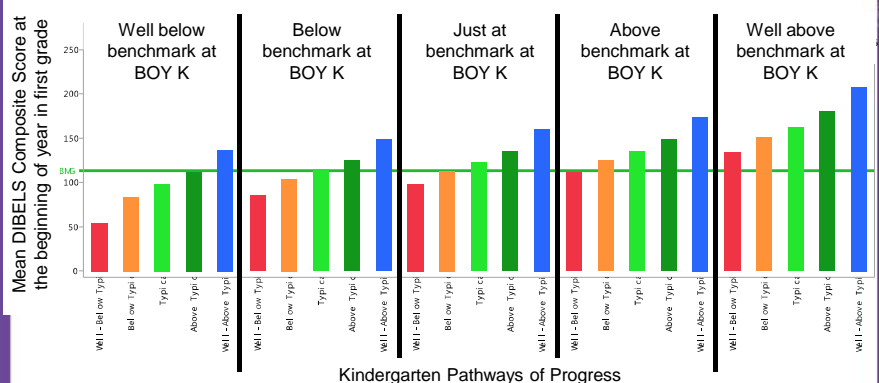
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## K-1 Cohort Pathways within Benchmark Status

Relation of Kindergarten beginning of year benchmark status and Kindergarten pathway of progress to Grade 1 end of year DIBELS Composite Score ( $n = 36,022$ ).



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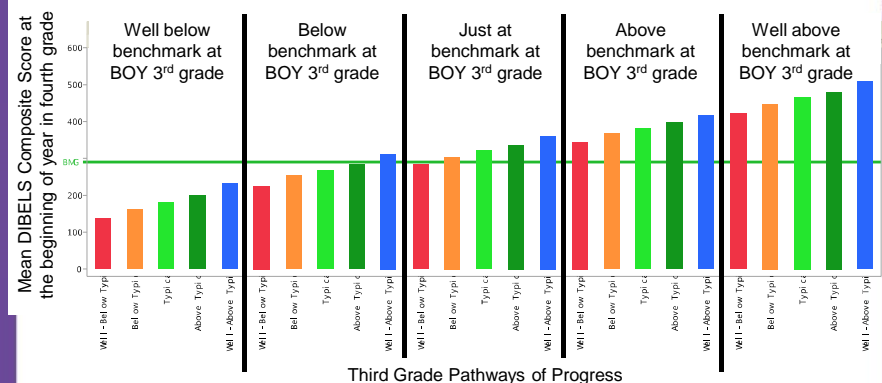
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## 3-4 Cohort Pathways within Benchmark Status

Relation of Grade 3 beginning of year benchmark status and Grade 3 pathway of progress to Grade 4 beginning of year DIBELS Composite ( $n = 21,341$ ).



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## Conclusions

1. The probability of achievement benchmark on the DCS in the subsequent grade is progressively higher across the ordinal Pathways.
  - For example-probability is greater for Pathway 4 than for Pathway 3
2. The Pathway that a student is on shares a significant amount of variability with the outcome.
  - For example, when the Pathway changes, the outcome changes in the same direction.

***The Pathway matters!***

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## 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

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## Implications For Practice

- Know Where Students Start
  - A student who begins the year at the cut-point and does not make progress is unlikely to achieve subsequent grade level outcomes without additional support.
- Set Ambitious Goals
  - Use the DIBELSnet goal setting utility to determine and select goals that reflect Typical, Above Typical, or Well Above Typical progress.
- Monitor/Evaluate Student Progress
  - Examining the data on their progress monitoring graph, including the Pathway.
  - Examine middle- and end-of-year classroom Pathways Reports

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## Case Studies

Robert & Donna

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## Pathways of Progress in an Outcomes-Driven Model

- ▶ Outcomes Driven Model Steps:
- ▶ Identify need for support.
- ▶ Validate need for support.
- ▶ Plan and implement support.
- ▶ Evaluate and modify support.
- ▶ Review outcomes.

The purpose of Pathways of Progress™ is to assist in *setting goals* and *evaluating progress*.



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## Three Guiding Principles in Establishing Individual Student Learning Goals

- Meaningful.
  - Goals should support students to achieve meaningful outcomes or increase the likelihood of achieving meaningful and important outcomes.
- Ambitious.
  - **Above typical** or **well above typical** progress are ambitious goals.
  - **Typical progress** may be sufficient for students who are at or above benchmark
  - **Typical progress may not be adequate** for students who are likely to need additional support to achieve benchmark goals.
  - **Below typical** or **well below typical** progress are just not very ambitious.
- Attainable.
  - High in the well above typical range is probably not attainable.
  - Typical and above typical progress is readily attainable.
  - Well below typical and below typical progress may be attainable, but are not ambitious or meaningful.

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## Third Grade At Cut Point for Risk Student Case Example: Robert

Robert's Skills at Beginning of Year in Third Grade

- ▶ **178 DIBELS Composite Score**
- ▶ **60 DORF Words Correct**
- ▶ **94% DORF Accuracy**
- ▶ **9 DORF Retell**
- ▶ **7 Daze Adjusted Score**

Establish a goal that is

- ▶ **meaningful:** *proficient reading* at or above benchmark or reduce risk
- ▶ **attainable:** typical or above typical progress is attainable
- ▶ **ambitious:** Because Robert is Below Benchmark at BOY, *above typical progress* or greater is appropriate

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## Third Grade At Benchmark Student Case Example: Donna

Donna's Initial Skills at Beginning of Year in Third Grade

- ▶ **222 DIBELS Composite Score**
- ▶ **68 DORF Words Correct**
- ▶ **96% DORF Accuracy**
- ▶ **17 DORF Retell**
- ▶ **8 Daze Adjusted Score**

Establish a goal that is

- ▶ **meaningful:** *proficient reading* at or above benchmark or reduce risk
- ▶ **attainable:** typical or above typical progress is attainable
- ▶ **ambitious:** Because Donna is Below Benchmark at BOY, *above typical progress* or greater is appropriate

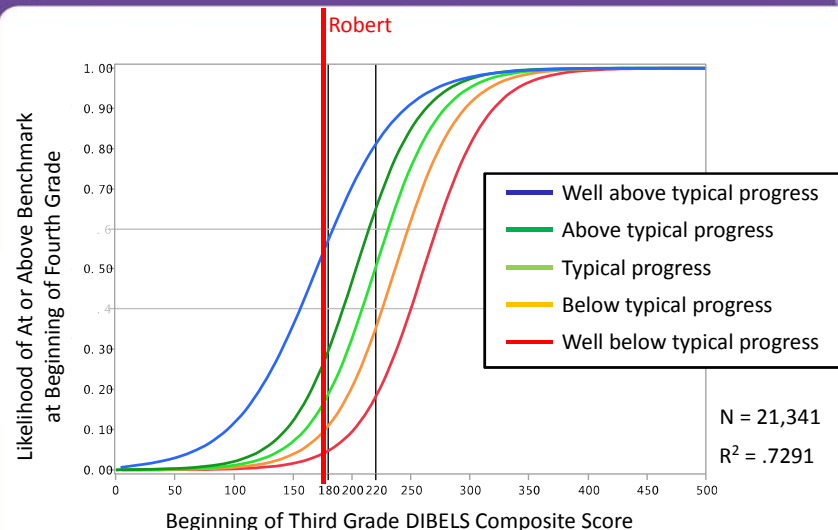
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## Meaningful Goals Improve Outcomes Grade 3 Predicting Beginning-Of-Year Grade 4



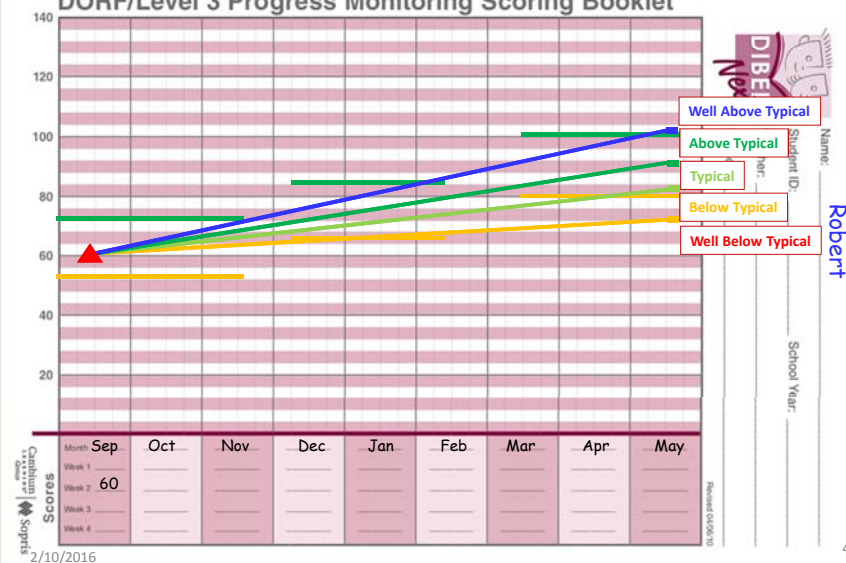
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## Progress Monitoring

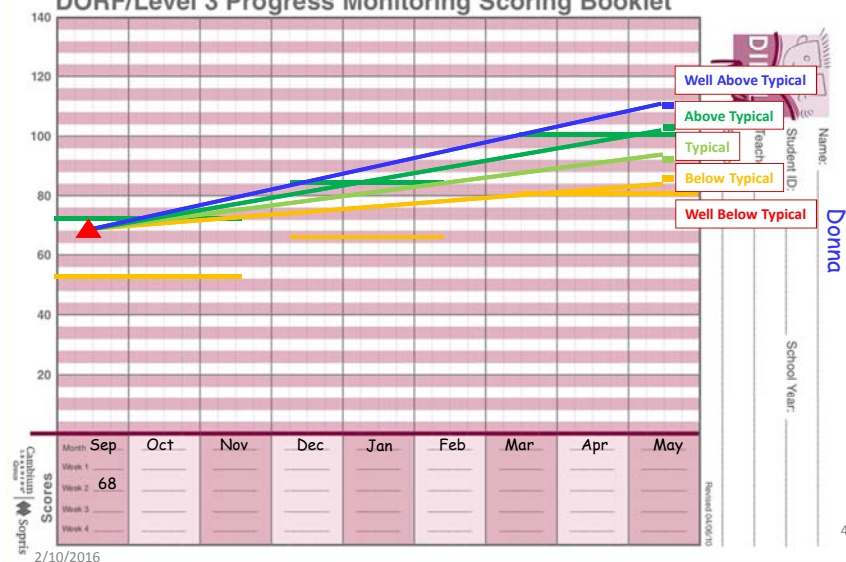
### DORF/Level 3 Progress Monitoring Scoring Booklet



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## Progress Monitoring

### DORF/Level 3 Progress Monitoring Scoring Booklet



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## Third Grade At Cut Point for Risk Student Case Example: Robert

### Robert's Skills at Beginning of Year in Third Grade

- ▶ **178 DIBELS Composite Score**
- ▶ **60 DORF Words Correct**
- ▶ **94% DORF Accuracy**
- ▶ **9 DORF Retell**
- ▶ **7 Daze Adjusted Score**

### Robert's End of Year Goal:

By the end of the year, Robert will read grade-level text orally at a rate of 102 or more words correct per minute, with at least 98% accuracy, and be able to talk about what he has read with at least 40 words about the passage. He will read grade-level text silently for meaning with at least 21 Daze adjusted score.

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## Mid-Year Pathways Report: Robert

School: Monroe Elementary School  
Grade: Third Grade, Middle of Year  
Year: 2014-2015  
Class: Jallad 3

### Pathways of Progress™ Report

DIBELSnet  
DIBELS Next

#### BEGINNING OF YEAR

All pathways are based on the beginning-of-year composite score.

#### MIDDLE OF YEAR

##### COMPONENT SCORE PATHWAYS

Component score pathways are compared to other students with the same beginning-of-year composite score.

To support overall reading proficiency, more growth is needed in a student's areas of relative weakness.

#### MIDDLE OF YEAR

##### OVERALL PATHWAY

A student's overall pathway is based on the student's middle-of-year composite score compared to other students with the same beginning-of-year composite score.

Name	BEGINNING OF YEAR		MIDDLE OF YEAR COMPONENT SCORE PATHWAYS						MIDDLE OF YEAR OVERALL PATHWAY	
	DIBELS Composite Score	DORF Words Correct Score	DORF Accuracy Score	DORF Retell Score	DORF Daze Score	DORF Daze Adjusted Score	DORF Daze Adjusted Score	DORF Daze Adjusted Score	DIBELS Composite Score	Pathway
Lithoxy-Opal, Harry	403	127	100%	94	10	475	★ ★ ★ ★			
Malaya-Garnet, Edward	298	102	99%	24	13	314	★			
Mellow-Apricot, Robert	178	70	96%	16	8	222	★			
Nickel-Iron, Donna	284	69	97%	30	9	261	★			
Opal-Jasper, Christine	133	67	93%	0	8	163	★			
Razzie-Dazzie-Rose, Cynthia	123	53	96%	27	5	215	★ ★ ★			
Redruthe, Boone	244	93	94%	44	15	313	★ ★ ★			
Rubelle, Louise	242	99	100%	43	3	317	★ ★ ★			
Ruby-Spinel, Jessica	42	22	65%	12	0	46	★			
Rust-Jacqueline	48	46	92%	8	7	146	★ ★ ★ ★			
Umber, Adam	388	179	100%	43	25	485	★ ★ ★ ★			
Vivid-Gamboge, Amy	284	101	100%	27	8	307	★ ★			

■ At or Above Benchmark / Likely to Need Core Support  
■ Below Benchmark / Likely to Need Strategic Support  
■ Well Below Benchmark / Likely to Need Intensive Support

Rate of progress compared to students with similar initial skills.

WELL ABOVE TYPICAL ★ ★ ★ ★  
ABOVE TYPICAL ★ ★ ★ ★  
TYPICAL ★ ★ ★ ★  
BELOW TYPICAL ★ ★ ★ ★  
WELL BELOW TYPICAL ★ ★ ★ ★

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## Mid-Year Pathways Report: Robert

Name	BEGINNING OF YEAR	MIDDLE OF YEAR COMPONENT SCORE PATHWAYS						MIDDLE OF YEAR OVERALL PATHWAY
	DIBELS Composite Score	DORF Words Correct Score	DORF Accuracy Score	DORF Retell Score	DORF Daze Score	DORF Daze Adjusted Score	DORF Daze Adjusted Score	DIBELS Composite Score
Lithoxy-Opal, Harry	403	127	100%	94	10	475	★ ★ ★ ★	
Malaya-Garnet, Edward	298	102	99%	24	13	314	★	
Mellow-Apricot, Robert	178	70	96%	16	8	222	★	
Nickel-Iron, Donna	284	69	97%	30	9	261	★	

- At the middle of year checkup, Robert is well below benchmark and is making below typical progress overall as indicated by his DIBELS Composite Score. At this time he is not making adequate progress to be on track in 4<sup>th</sup> grade
- His strength is in word reading accuracy where his progress is typical and he is at or above benchmark.
- His progress on Daze Adjusted Score was typical, but he is still below benchmark.
- He has notable difficulty talking about what he has read, with well below benchmark skills on DORF Retell and well below typical progress.

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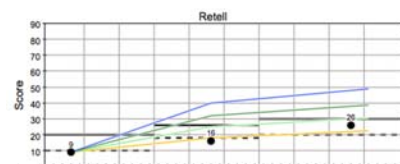
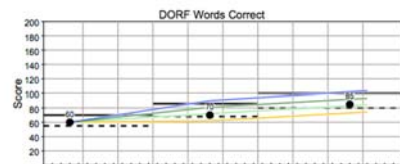
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## Pathways Graphs: Robert

Name: Robert Mellow-Apricot  
StudentID: 232015NT5  
School: Monroe Elementary School  
Class: Jallad 3  
Grade: Third Grade  
Year: 2014-2015

DIBELSnet

● Benchmark Score  
▲ Score Above Graph Boundary  
— Benchmark Goal  
--- Cut Point for Risk  
— Pathways of Progress  
● Individual Goal



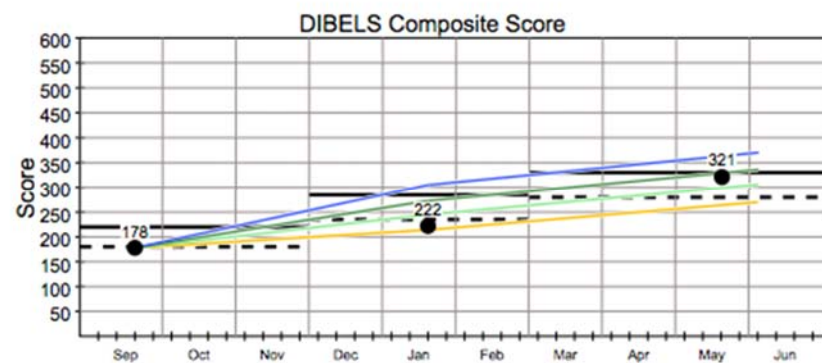
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## Pathways Graphs: Robert



Overall, Robert is making below typical progress at the middle of the year, and typical progress by the end of the year.

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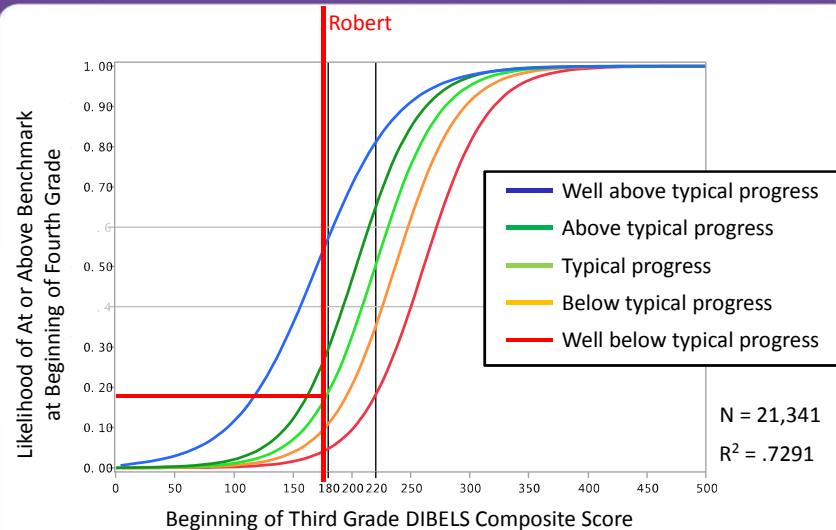
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## Meaningful Goals Improve Outcomes

### Grade 3 Predicting Beginning-Of-Year Grade 4



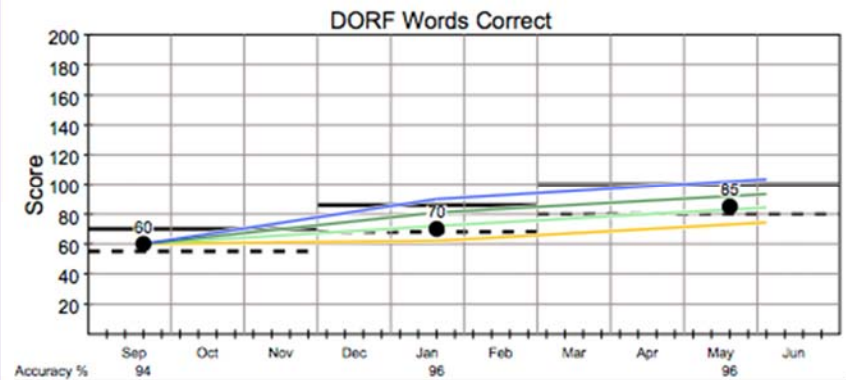
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## Pathways Graphs: Robert



On DORF Words Correct, Robert is also making below typical progress at the middle of the year, and typical progress by the end of the year, with 96% accuracy.

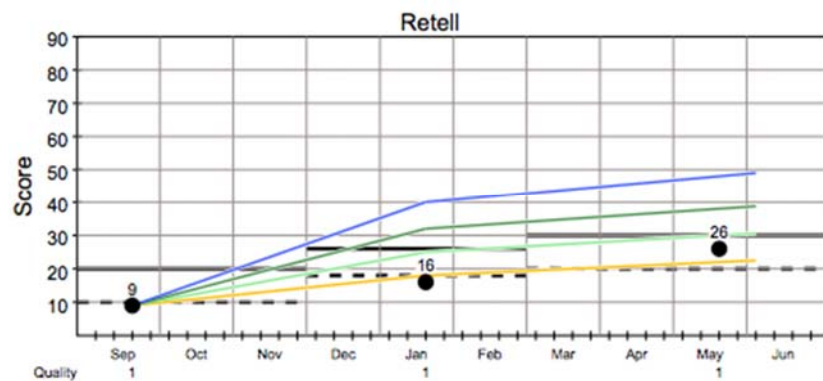
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## Pathways Graphs: Robert



On DORF Retell, Robert is making well below typical progress at the middle of the year, and below typical progress by the end of the year. His retell quality was consistently rated as a 1, the lowest level.

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## Pathways Graphs: Robert



On Daze Adjusted Score, Robert was below benchmark in the middle of the year, and making typical progress (barely). By the end of the year he had made well above typical progress and was above benchmark.

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## Third Grade At Benchmark Student Case Example: Donna

### Donna's Initial Skills at Beginning of Year in Third Grade

- ▶ **222 DIBELS Composite Score**
- ▶ **68 DORF Words Correct**
- ▶ **96% DORF Accuracy**
- ▶ **17 DORF Retell**
- ▶ **8 Daze Adjusted Score**

### Donna's End of Year Goal:

By the end of the year, Donna will read grade-level text orally at a rate of 107 or more words correct per minute, with at least 98% accuracy, and be able to talk about what she has read with at least 46 words about the passage. She will read grade-level text silently for meaning with at least 21 Daze adjusted score.

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## Mid-Year Pathways Report: Donna

School: Madison Elementary School  
Grade: Third Grade, Middle of Year  
Year: 2014-2015  
Class: Giorgi 3

Pathways of Progress™ Report

**DIBELSnet**  
DIBELS Next

### BEGINNING OF YEAR

All pathways are based on the beginning-of-year composite score.

### MIDDLE OF YEAR

COMPONENT SCORE PATHWAYS

Component score pathways are compared to other students with the same beginning-of-year composite score.

To support overall reading proficiency, more growth is needed in a student's areas of relative weakness.

### MIDDLE OF YEAR

OVERALL PATHWAY

A student's overall pathway is based on the student's middle-of-year composite score compared to other students with the same beginning-of-year composite score.

Name	BEGINNING OF YEAR		MIDDLE OF YEAR COMPONENT SCORE PATHWAYS						MIDDLE OF YEAR OVERALL PATHWAY	
	DIBELS Composite Score	DORF Words Correct Score	DORF Accuracy Score	DORF Retell Score	Daze Adjusted Score	Pathway	Pathway	Pathway	DIBELS Composite Score	Pathway
Lithovyl-Opal, Harry	60	37	90%	19	11	159	★★★★★			
Malaya-Garnet, Edward	241	98	98%	31	13	316	★★★★★			
Mellow-Arriot, Robert	405	162	99%	73	19	426	★★★★★			
Nickel-Iron, Donna	222	92	99%	37	13	330	★★★★★			
Opal-Jasper, Christine	389	98	99%	48	12	354	★★★★★			
Razzie-Dazzie-Rose, Cynthi	90	43	91%	14	2	127	★★★			
Reduthe, Bonnie	273	106	100%	25	11	320	★★★★★			
Rubiothe, Louise	289	98	98%	50	20	382	★★★★★			
Ruby-Spinel, Jessica	216	56	97%	18	6	212	★★★			
Swift-Jacqueline	242	68	97%	34	10	272	★★★			
Umber, Adam	505	188	99%	66	40	500	★★★★★			
Vivid-Gambole, Amy	246	112	97%	27	22	300	★★★★★			

■ At or Above Benchmark / Likely to Need Core Support  
■ Below Benchmark / Likely to Need Strategic Support  
■ Well Below Benchmark / Likely to Need Intensive Support

Rate of progress compared to students with similar initial skills:  
WELL ABOVE TYPICAL ● ● ● ● ●  
ABOVE TYPICAL ○ ○ ○ ○ ○  
TYPICAL □ □ □ □ □  
BELOW TYPICAL ● ● ● ● ●  
WELL BELOW TYPICAL ○ ○ ○ ○ ○

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## Mid-Year Pathways Report: Donna

Name	BEGINNING OF YEAR		MIDDLE OF YEAR COMPONENT SCORE PATHWAYS						MIDDLE OF YEAR OVERALL PATHWAY	
	DIBELS Composite Score	DORF Words Correct Score	DORF Accuracy Score	DORF Retell Score	Daze Adjusted Score	Pathway	Pathway	Pathway	DIBELS Composite Score	Pathway
Lithovyl-Opal, Harry	60	37	90%	19	11	159	★★★★★			
Malaya-Garnet, Edward	241	98	98%	31	13	316	★★★★★			
Mellow-Arriot, Robert	405	162	99%	73	19	426	★★★★★			
Nickel-Iron, Donna	222	92	99%	37	13	330	★★★★★			
Opal-Jasper, Christine	389	98	99%	48	12	354	★★★★★			
Razzie-Dazzie-Rose, Cynthi	90	43	91%	14	2	127	★★★			

- Donna is making above typical progress or well above typical progress in all areas.
- Making adequate progress in all areas.

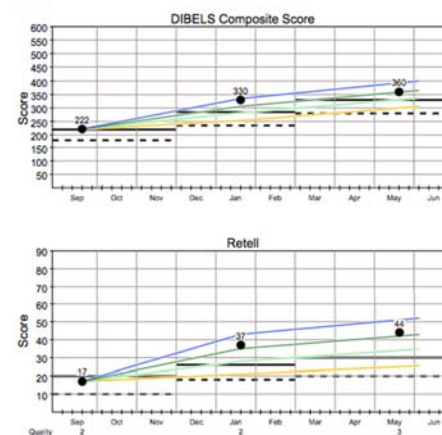
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## Pathways Graphs: Donna



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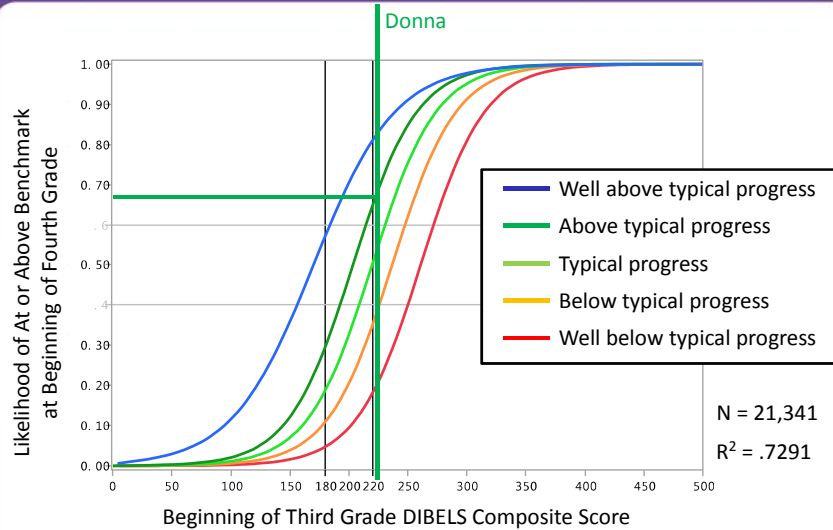
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## Meaningful Goals Improve Outcomes Grade 3 Predicting Beginning-Of-Year Grade 4



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## Implications For Future Research

- This study provides one of the very few examinations of the impact of benchmark level performance in one grade on benchmark performance in the subsequent grade.
- This study is the only examination that we know of that uses the *DIBELS Next* Composite Score with a very large sample ( $N \approx 1.8$  million students) and accounts for progress across the year.
- Future research should replicate these results.

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## Pathways of Progress™ Conclusions and Big Ideas

- Pathways of Progress clarifies what rate of progress is *typical*, *above typical*, or *well above typical*. Pathways of progress also informs educators when progress is *below typical* or *well-below typical*.
- Pathways of Progress inform meaningful, ambitious, and attainable goals taking into account the student's level of initial skills.
- Pathways of Progress provides a way to separate estimates of initial skills from decisions about progress.
- Pathways of Progress provide a highly reliable basis for evaluating progress.
- Pathways of Progress are valid & important predictors of future student outcomes.

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## References/Resources for Further Reading

- Betebenner, D. W. (2011). An overview of student growth percentiles. National Center for the Improvement of Educational Assessment.  
[http://www.state.nj.us/education/njsmart/performance/SGP\\_Detailed\\_General\\_Overview.pdf](http://www.state.nj.us/education/njsmart/performance/SGP_Detailed_General_Overview.pdf) (retrieved 2014-06-10).
- Fuchs, L. S., & Fuchs, D. (1986). Effects of systematic formative evaluation: A meta-analysis. *Exceptional Children*, 53(3), 199–208.
- Good, R. H., III, & Powell-Smith, K. A. (2015). *Making Reliable and Stable Progress Decisions: Slope or Pathways of Progress?* Poster presented at the twenty-third annual Pacific Coast Research Conference (PCRC), San Diego, California.
- Good, R. H., III, Powell-Smith, K. A., Gushta, M., & Dewey, E. N. (2015). *Evaluating the R in RTI: Slope or Student Growth Percentile?* Paper presentation at the National Association of School Psychologists' Annual Convention, Orlando, FL.
- Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. New York, NY: Routledge.

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