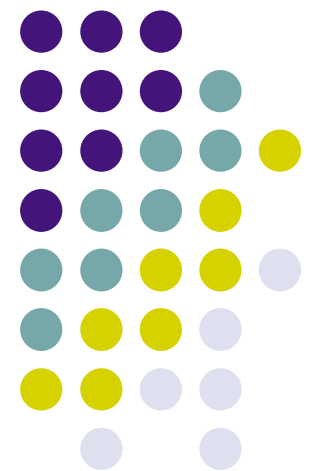# Using Data to Improve Student Achievement
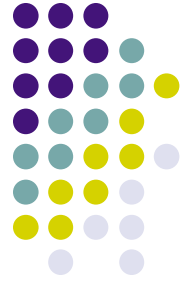
Katie Lynn Appel

University of Dayton

Fall 2007

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Large-Scale Assessments

- Large scale assessments are designed for a specific purpose. Those used in most states are designed to rank-order schools and students for the purposes of accountability.
- Assessments designed for ranking are generally not good instruments for helping teachers improve instruction or modify their approach to individual students for the following reasons:
  - ✓ **Assessments typically are given to students when instructional activities are near completion.**
  - ✓ **Teachers don't receive the results until two or three months later…by that time students have moved on to new teachers.**
  - ✓ **Results that teachers receive usually lack the level of detail needed to target specific improvements.**
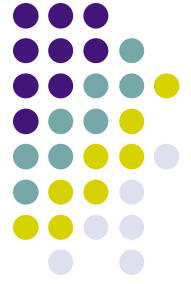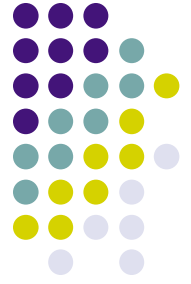
Teachers who develop useful assessments, provide corrective instruction and give students second chances to demonstrate success can improve their instruction and help students learn.

Thomas R. Guskey

Make Assessments Useful
For Students

- When students are given assessments that fail to align with the experiences in the classroom they are often left to feel like their hard work and efforts don't pay off in school because the time and effort that they spent studying had little or no influence on the results and they also lose trust in their teacher.

- Classroom assessments that serve as meaningful pieces of information don't surprise students. Instead, it allows for reflection of the concepts and skills that the teacher emphasized in class.

- Teachers can help students understand important feedback for learning.

Make Assessments Useful

For Teachers
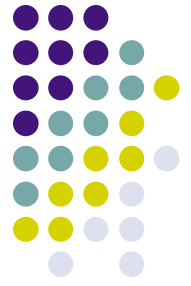
- Classroom assessments should serve as a meaningful source of information for teachers, helping them identify what was taught well and what they need to work on.

- Teachers must be able to determine whether the assessment(s) adequately addresses the knowledge, understanding, or skill that they were intended to measure (Guskey, 2003).

- **If teachers find no obvious problems with the assessment, then they must turn their attention to their own teaching.**

Follow Assessments with

Corrective Instruction
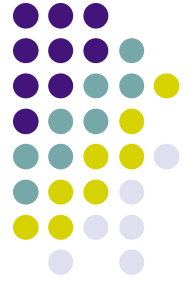
- Assessments can be meaningful for students and teachers, but they don't mark the end of teaching.
- Assessments must be followed by high-quality, corrective instruction designed to remedy whatever learning errors the assessment identified.
- Teachers must use approaches that accommodate differences in students' learning styles and intelligences.
- Teachers need to see their assessments as an integral part of the instruction process and as crucial for helping students learn.

Second Chances to
Demonstrate Success
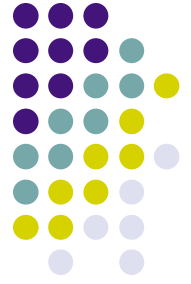
- Assessments cannot be a one-shot, do-or-die experience for students.
- A second chance helps determine the effectiveness of the corrective instruction and offers students another opportunity to experience success in learning.
- Some teachers have expressed concerns that giving students a second chance might be unfair and that "life isn't like that."
- However, all educators strive to have their students become lifelong learners and develop learning-to-learn skills.

What better learning-to-learn skill is there than learning from one's mistakes?

Assessment for Learning
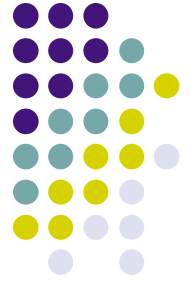
- Stiggins (2002) complains that standardized assessments of learning are increasingly being used to place blame, dole out punishment and rewards, and threaten students and teachers to increase effort.

- By contrast, assessment for learning is designed to help teachers craft more responsive curriculums that facilitate progress for all students.

- Using tests to determine students' reading ability levels and match them with the most appropriate instructional and recreational reading materials is more likely to promote learning than is using assessment to make placement and grouping decisions, establish a school or district performance rating, or index a teacher merit pay to student achievement.
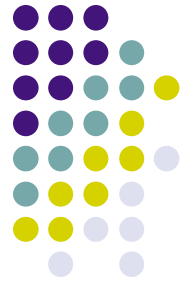
Student Progress Monitoring
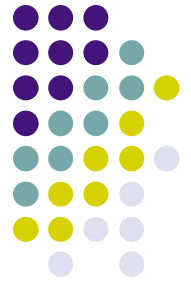
In today's education climate, school success is defined as ensuring achievement for every student. To reach this goal, educators need tools to help them identify students who are at risk academically and adjust instructional strategies to better meet these students' needs.

Nancy Safer and Steve Fleischman

What is Progress Monitoring?

- Student progress monitoring is a practice that helps teachers use student performance data to continually evaluate the effectiveness of their teaching and make more informed instructional decisions.

- The teacher determines a students' current performance level on skills that the student will be learning, identifies achievement goals that the student needs to reach by the end of the year, and establishes the rate of progress the student must make to meet those goals.

- The teacher then measures the student's academic progress regularly (weekly, biweekly, or monthly) using probes.

- Each probe samples the entire range of skills that the student must learn by the end of the year, rather than just the particular skills a teacher may be teaching that week or month.

Mastery Measurement vs.
## Progress Monitoring
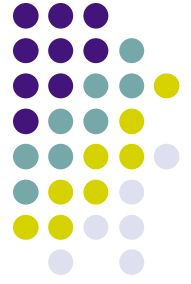
Mastery Measurement

- Tells teachers whether the student has learned the particular skills covered in a unit.

Progress Monitoring

- Tells teacher whether the student is learning at a pace that will allow him or her to meet learning goals by the end of the year.

- If the rate at which a particular student is learning seems insufficient, the teacher can adjust instruction.

Tracking Student Progress
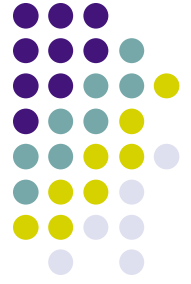
- The teacher graphs a trajectory line between the student's initial level of performance on a specific skill and the end-year goal.

- Then the student plots the level of performance as each probe is administered.

- After noting the pattern of progress, the teacher can adjust instruction to improve student learning.

- If a student's performance falls below the line, the teacher may use more intense instruction (in small groups or one-on-one), re-teach the material, or provide additional opportunities for the student to practice certain skills.
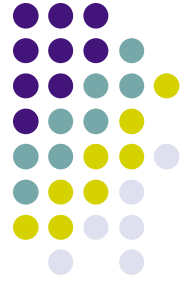
Tracking Student Progress

- Developing probes for frequent measurement for each grade level can be a daunting task for schools.

- Many schools turn to commercially available products, which are web-based and can automatically graph the progress of individual students.

- Information about resources and tools can be found at www.studentprogress.org

DIBELS

Dynamic Indicators of Basic Early Literacy Skills

- The Dynamic Indicators of Basic Early Literacy Skills (DIBELS) are a set of standardized, individually administered measures of early literacy skills.
- Designed to be one minute fluency measures used to monitor the development of early reading skills.
- The measures were developed upon the essential early literacy domains discussed in both the National Reading Panel (2000) and National Research Council (1998) reports to assess student development of:
  - ✓ **Phonological Awareness**
  - ✓ **Alphabetic Principle**
  - ✓ **Reading Fluency**
- The following is a graphical representation of the measures that are assessed in first grade.

	Beginning of Year Week 3-6	Middle 1 of Year Week 12-15	Middle 2 of Year Week 22-24	End of Year Week 32-34
PSF	PSF<10 10<=PSF<35 PSF>=35	PSF<10 10<=PSF<35 PSF>=35	PSF<10 10<=PSF<35 PSF>=35	PSF<10 10<=PSF<35 PSF>=35
NWF	NWF<13 13<=NWF<24 NWF>=24	NWF<24 24<=NWF<41 NWF>=41	NWF<30 30<=NWF<50 NWF>=50	NWF<30 30<=NWF<50 NWF>=50
ORF	Not Assessed Yet	ORF<4 4<=ORF<13 ORF>=13	ORF<11 11<=ORF<25 ORF>=25	ORF<20 20<=ORF<40 ORF>=40

PSF	Phoneme Segmentation Fluency
NWF	Non-Sense Word Fluency
ORF	Oral Reading Fluency

Deficit
Emerging
Established

Individual Student Graph
Phoneme Segmentation Fluency (PSF)
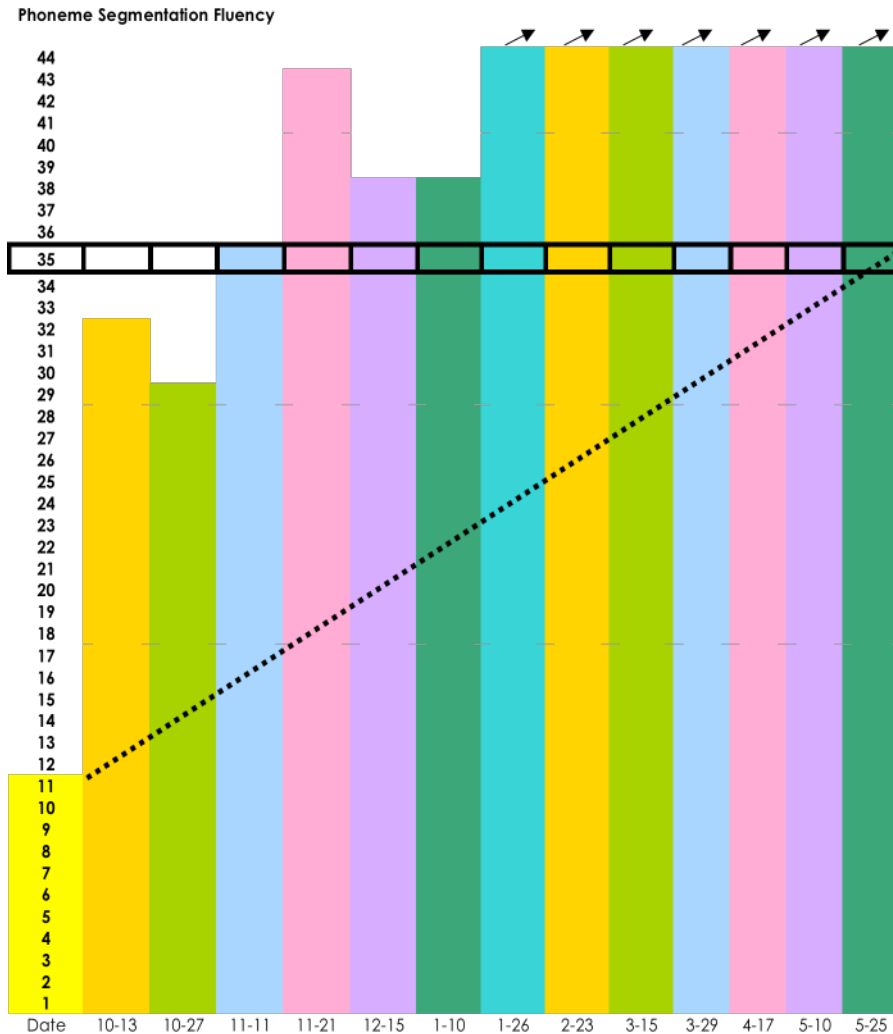
This graph is a sample of a student's individual graph for Phoneme Segmentation Fluency. The child's first score is in yellow. A trajectory line is drawn from their initial score to where they need to be by the end of the year. The end-year score for PSF is 35. The child colors their score after each progress monitoring and attempts to stay above the trajectory line. This particular student was able to stay above the trajectory line after each progress monitoring. By January this child was even above graph bounds.

Individual Student Graph
Non-Sense Word Fluency (NWF)

Non-Sense Word Fluency
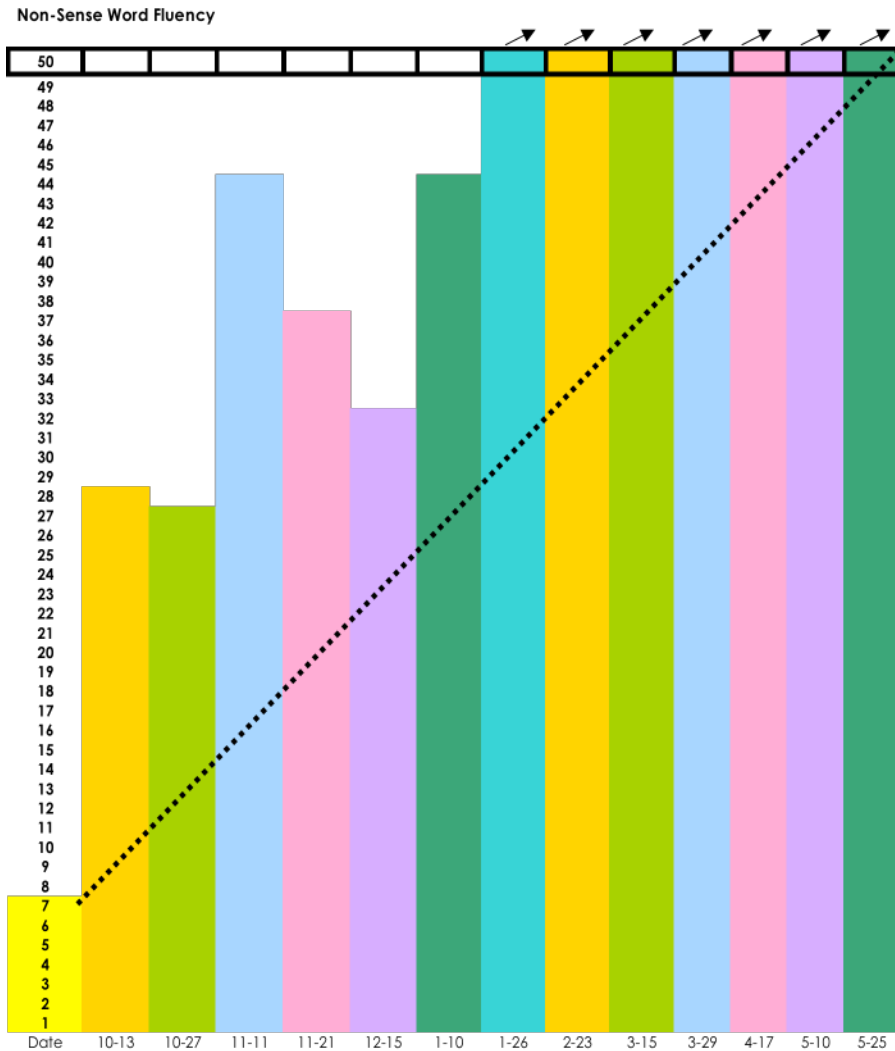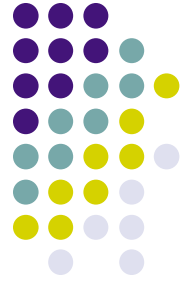
This graph shows a student's progress from the beginning of the year until the end of the year. Although this child stayed above the trajectory line during the first half of the year, scores were inconsistent. From 10-27 to 11-11 this child made tremendous growth. However, from 11-11 to 12-15 the child went down. At this point the teacher can determine if a child requires additional instruction or change of instruction.

Individual Student Graph
Oral Reading Fluency (ORF)

Oral Reading Fluency
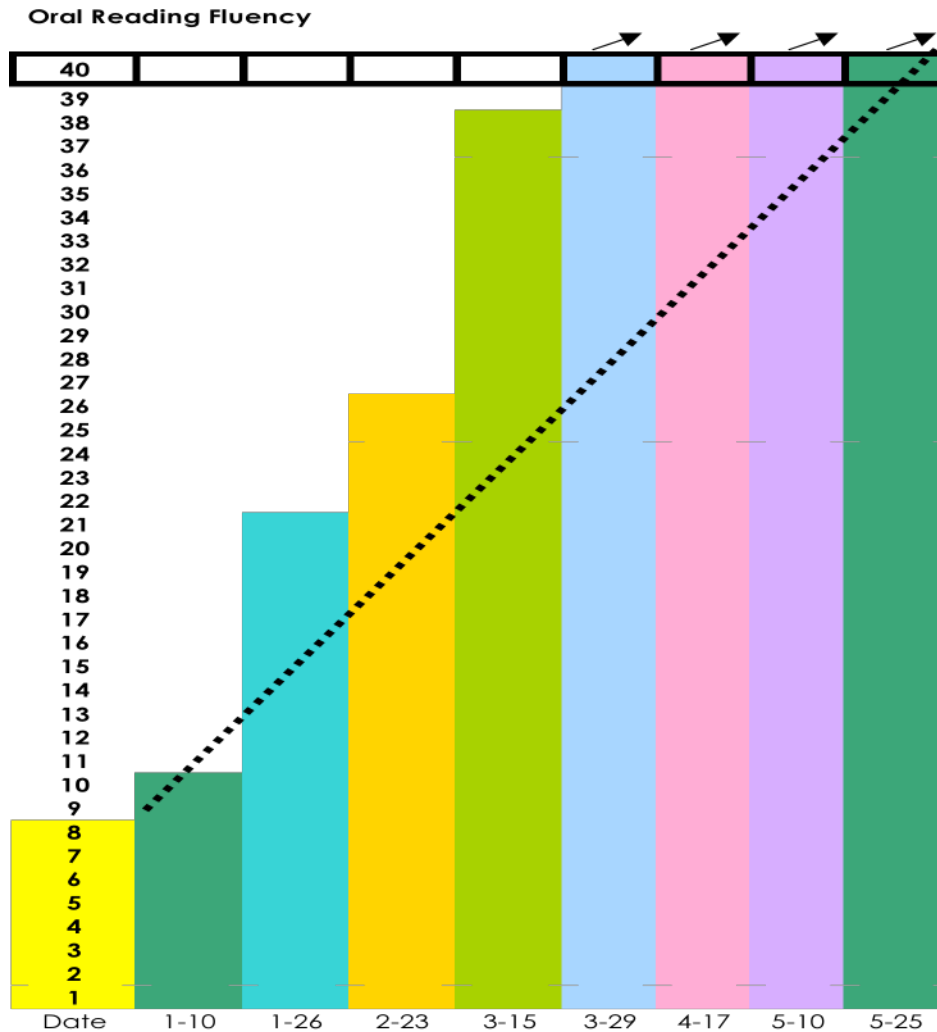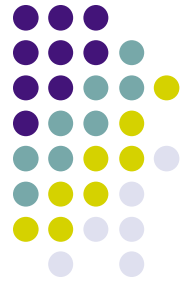
Oral Reading Fluency in First Grade is not officially assessed until the beginning of January. By the end of the year, a student should be able to read at least 40 words per minute. This student's initial score was a 8. During the following progress monitoring, the child was unable to stay above the trajectory line. This lets the teacher know that instruction and/or intensity needs to change. Teachers can provide additional support one-on-one or in small groups with similar or differing abilities.

Benefits
of Progress Monitoring
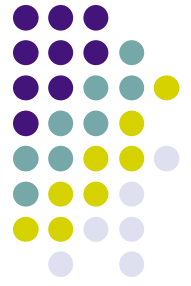
- Using student progress monitoring with the whole class requires extra effort.

- However, many educators will find this strategy worth the effort because it provides a powerful tool that can help teachers adjust instruction to ensure that **all** students reach high standards.

Viewing Whole-Class Data
to Guide Instruction
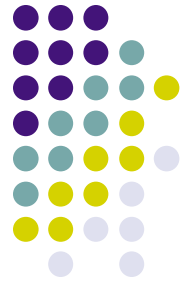
- Not only is it beneficial to chart students' progress using individual graphs, but to collect class data as a whole.
- After each progress monitoring, class scores are displayed collectively.
- This data can provide the teacher will much information to guide instruction.
- The following slides represent my first grade class profile for the 2006-2007 school year.
- Teaching implications from the data demonstrate how data is used to guide my instructional decisions in the classroom.

Progress Monitoring
October 12-13, 16

	Phoneme Segmentation	Non-Sense Word	Oral Reading
	49	35	
	42	24	
	49	27	
	66	32	
	60	31	39
	39	79	80
	47	23	
	53	38	
	32	38	
	72	46	39
	53	41	10
	57	139	101
	37	19	
	40	28	
	53	24	
October 12, 13, 16	Absent	Absent	
	57	22	
	46	48	
	47	45	
	46	29	
	62	24	

INSTRUCTIONAL IMPLICATIONS

Phoneme Segmentation
Looking at my class profile all but one student has met the end year goal. This let me know that instruction needed to change for that particular child.
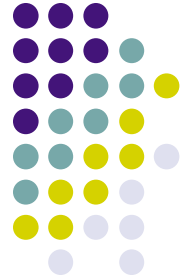
Non-Sense Word
Many of my students needed instruction in identifying letter sounds quickly. Whole class instruction should be increased and well as intensity.

Oral Reading
Although this is not expected at this time of the year, I felt these students would be successful readers based upon classroom observations and other various assessments.

Progress Monitoring
November 20-22

	Phoneme Segmentation	Non-Sense Word	Oral Reading
November 20, 21, 22	52	24	
	54	27	
	49	44	
	40	47	23
	56	41	52
	53	85	84
	58	28	
	43	41	
	62	46	50
	50	58	18
	54	144	101
	54	38	
	45	37	
	49	41	14
	44	56	38
	49	23	
	56	74	109
	52	62	46
	56	32	13
	51	37	

INSTRUCTIONAL IMPLICATIONS

Phoneme Segmentation

All students are at/above the end-year goal. Progress monitoring will occur to ensure students remain where they need to be.
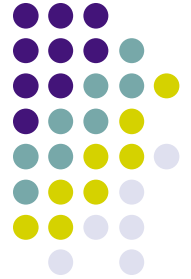
Non-Sense Word

Progress made since last progress monitor is inadequate. Instruction and intensity need to be increased. Red and yellow students will be grouped according to needs.

Oral Reading

Additional students have been assessed. Green students will begin to focus on comprehension and extended fluency practice.

Progress Monitoring
December 15-16

Phoneme Segmentation	Non-Sense Word	Oral Reading
55	64	
51	35	
51	39	
59	55	18
56	56	36
53	89	98
46	40	
38	36	
62	52	40
54	50	20
54	144	85
59	53	
48	32	
49	43	
44	48	
56	74	110
52	60	57
42	67	
56	39	14
51	52	29

December 15, 16

INSTRUCTIONAL IMPLICATIONS

Phoneme Segmentation

All students are above end-year goal. Focus will now be spent on skills to increase NWF and ORF, but frequent progress monitoring will take place to ensure students remain on track.

Non-Sense Word

Instruction change that occurred since last progress monitor has helped. Yellow students should be given additional time with teacher. Green students will also be paired with yellow students for additional support.

Oral Reading Fluency

Students that are yellow and red are not making growth as expected. Progress will be monitored and changes about instruction will be made next progress monitoring.

Progress Monitoring

January 4-5, 10-11
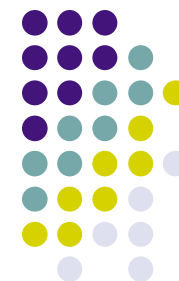
January 4-5, 10-11	Phoneme Segmentation	Non-Sense Word	Oral Reading
	55	37/15	20/6
	59	56/21	66/5
	42	43/0	7/9
	49	51/18	7/7
	62	54/15	29/3
	45	59/18	60/6
	56	107/38	100/0
	53	37/11	11/6
	38	60/0	10/9
	62	53/17	58/8
	59	49/17	22/6
	76	142/50	110/0
	58	46/15	11/3
	43	44/13	8/7
	41	36/12	50/3
	50	54/4	46/4
	56	80/28	121/1
	57	54/19	67/1
	58	50/18	21/5
	52	54/19	39/5
	39	63/0	33/10

INSTRUCTIONAL IMPLICATIONS

Non-Sense Word

Yellow student have become green. Current yellows will receive a change of instruction and increased intensity.
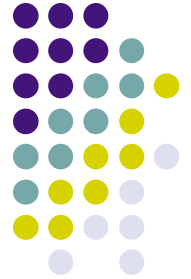
Oral Reading

This is the official time in which reading fluency is benchmarked. Green students will begin/continue to increase comprehension and fluency. Yellow students will be grouped and continue to work on advanced decoding skills. Red students will have additional instruction with high frequency words.

Progress Monitoring
February 23

	Phoneme Segmentation	Non-Sense Word	Oral Reading
	43	45	28
	59	73	76
	48	44	10
	49	52	15
	62	66	44
	45	70	51
	56	139	88
	53	44	22
	49	54	24
	62	58	50
	59	51	31
	76	140	92
	58	36	10
	43	49	21
	55	52	41
	50	74	44
	56	138	81
	57	52	66
	51	50	42
	62	55	25
	52	57	46

(Row label on left side: February 23)

INSTRUCTIONAL IMPLICATIONS

Non-Sense Word
Instruction will remain the same until next progress monitoring. Instruction will change if needed. Many days off school could be the factor for lack of growth/improvement.

Oral Reading
Red students will partner with green students in addition to teacher's instruction. Green students will be given the DRA to measure comprehension and reading accuracy.

Progress Monitoring
April 16-17

Phoneme Segmentation	Non-Sense Word	Oral Reading
53	67	29
58	68	39
42	82	141
61	61	39
61	52	28
67	69	47
44	75	112
79	126	120
47	43	23
55	63	36
73	72	59
54	61	39
78	150	142
62	73	21
0*	0*	0*
48	72	45
47	61	88
62	80	40
72	103	103
60	72	95
48	63	52
66	61	25
45	51	56

April 16-17

* New Student

INSTRUCTIONAL IMPLICATIONS
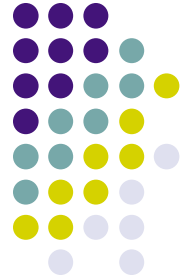
Non-Sense Word

New student in the classroom needs intense instruction in phonemic awareness, alphabetic principal, and reading fluency.

Oral Reading

Many students went down since the last progress monitoring. The reading passage could have been difficult. Refer to the errors made between all yellow students and use it to guide whole class instruction.

End-Year Benchmark

May 25

Phoneme Segmentation	Non-Sense Word	Oral Reading
53	67	42
58	68	46
113	77	151
45	64	41
53	61	54
64	69	50
55	85	120
43	104	122
53	30	29
41	54	41
101	66	99
48	50	41
76	142	161
52	58	43
22	45	19
50	72	44
44	57	100
49	85	55
50	86	129
55	105	120
48	63	52
54	54	45
45	51	83

May 25

END OF THE YEAR

Two students didn't end where they needed to be for first grade. However, their growth is documented on their individual student graphs that show they have made over a years growth. (The student with two yellows and one red entered the classroom in April). Second grade teachers will be given individual student graphs and I will discuss the instructional strategies used. Parents will be given additional resources to use with their child over the summer.

When teachers use systematic progress monitoring to track their students' progress in reading, mathematics, or spelling, they are better able to identify students in need of additional or different forms of instruction, they design stronger instructional programs, and their students achieve better.

L.S. Fuchs and D. Fuchs