The Early Writing Project

Early Writing, Assessment, & Behavior

Acknowledgements

Early Writing Project Team

University of Missouri

University of Minnesota

The research reported here is supported by the Institute of Education Sciences, U.S. Department of Education, through Grant R324A130144 to the University of Minnesota. The opinions expressed are those of the authors and do not represent views of the Institute or the U.S. Department of Education.

The Early Writing Project

What is Data-Based Instruction?

Data-Based Instruction (DBI) is a systematic, data-based approach for teachers to individualize instruction for beginning writers.

Data-Based Instruction

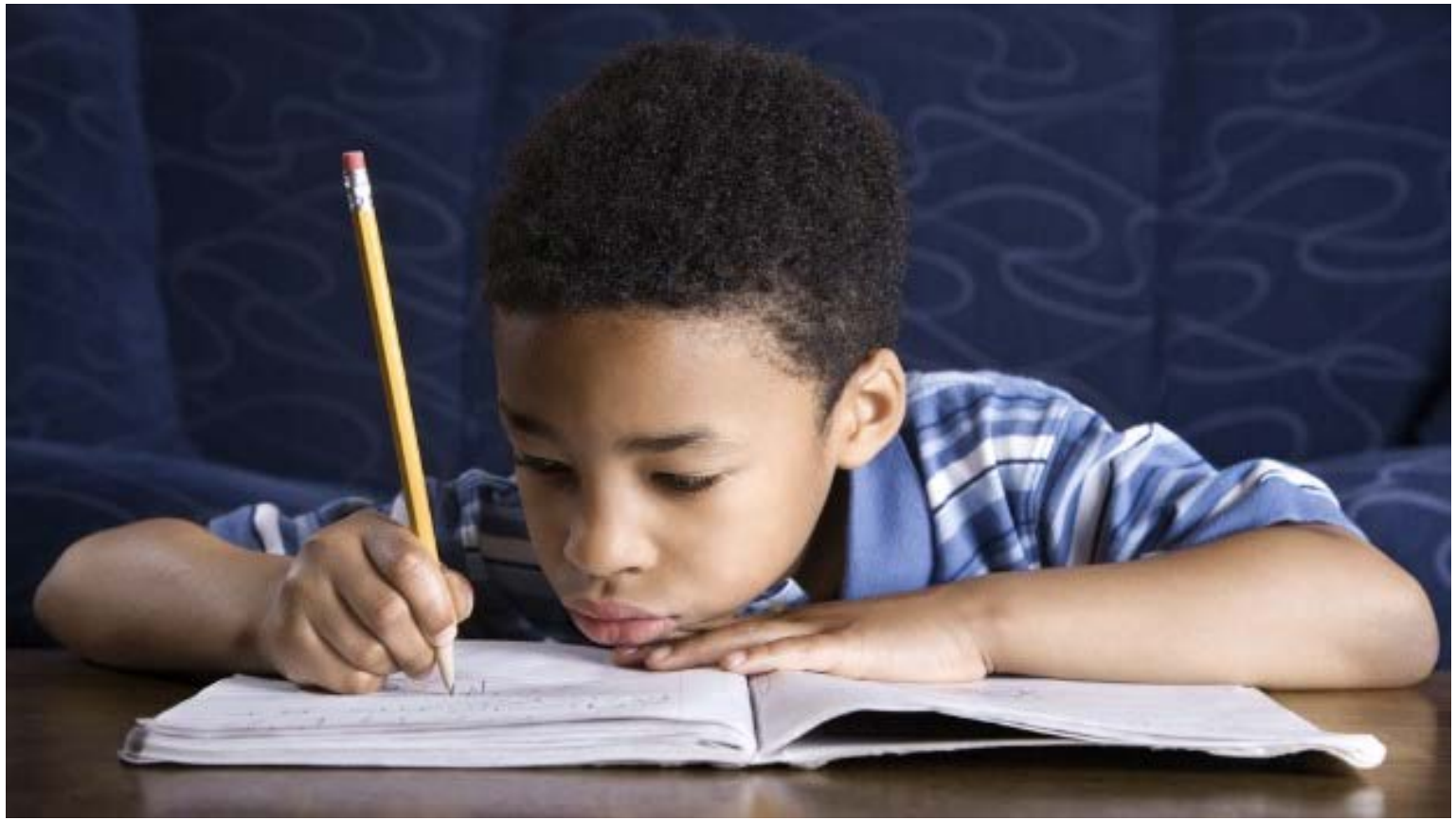
Is…

- A *framework* for making instructional decisions
- A dynamic *process* of ongoing assessment and intervention

Is not…

- A curriculum
- An assessment
- A single intervention

What are the steps of Data Based Instruction (DBI)?



Data-based instruction: Why do we use it?

Why Implement DBI?

- Some students do not respond to research-based interventions.
- These students require more intensive, individualized instruction.
- DBI provides a framework to individualize instruction.
- When teachers use DBI correctly, student achievement can improve.

Data-Based Instruction: Assumptions

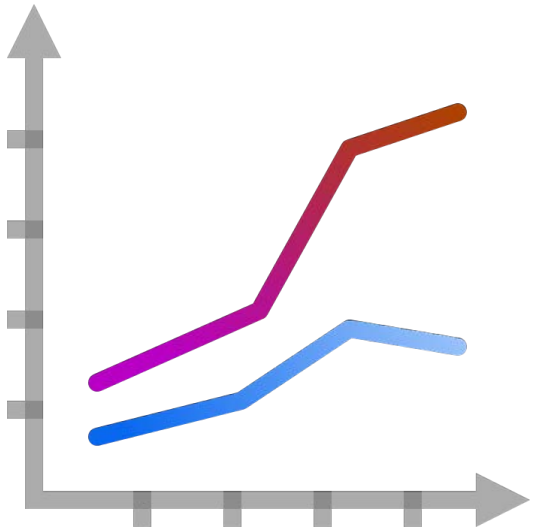
Effective, research-based instructional approaches exist, but it is impossible to predict whether these approaches will meet the unique needs of each individual student.

Data-Based Instruction: Assumptions

We can only hypothesize that a given instructional approach will work for an individual student; thus, we must test whether it is effective for that student.

Data-Based Instruction: Assumptions

We can collect ongoing ***assessment data*** and use it as ***evidence*** to determine whether an instructional approach is working for an individual student.



Data-Based Instruction: Assumptions

The ongoing assessment data used for instructional decision-making should reflect ***critical academic skills*** that we expect to ***improve over time.***

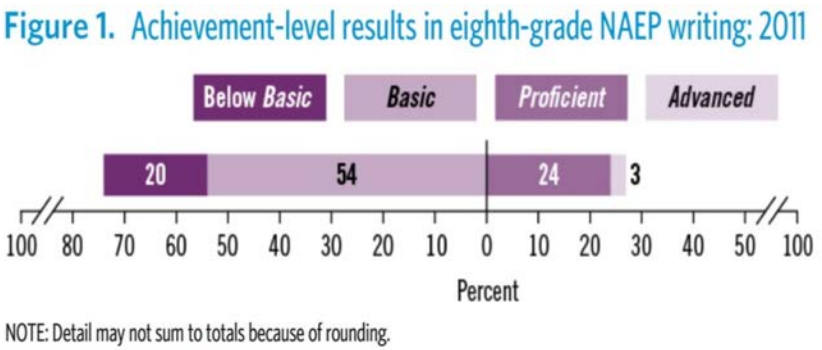
Why Writing?

Why Writing?

- Proficient writing is essential to learning in school and to later vocational success.
- Learning to write is critical to
  - Overall literacy development
  - Students' ability to communicate what they know
  - Integrating knowledge and thinking critically

Prevalence

- Nation's Report Card (2002, 2011):
  - 72% of 4th-graders, 73% of 8th-graders, 73% of 12th-graders below proficient
  - Only ~27% of students at or above *proficient* at 8th & 12th grades



Struggling Writers

- Some students who are at-risk or identified with academic disabilities struggle severely with writing.
- These difficulties often go undetected for a long time.
- Early identification and intervention
  - are essential to preventing long-term failure.
  - require a coordinated system of screening, intervention and progress monitoring...

EBD & Writing

- Students with behavioral concerns, including those identified as EBD, have persistent difficulties developing writing skills (Datchuck, Kubina, & Mason, 2015)
- Writing development is worse for those with externalizing behaviors (Nelson, Benner, Lane, & Smith, 2004).

*Hier & McCurdy, 2016 (NASP Presentation)

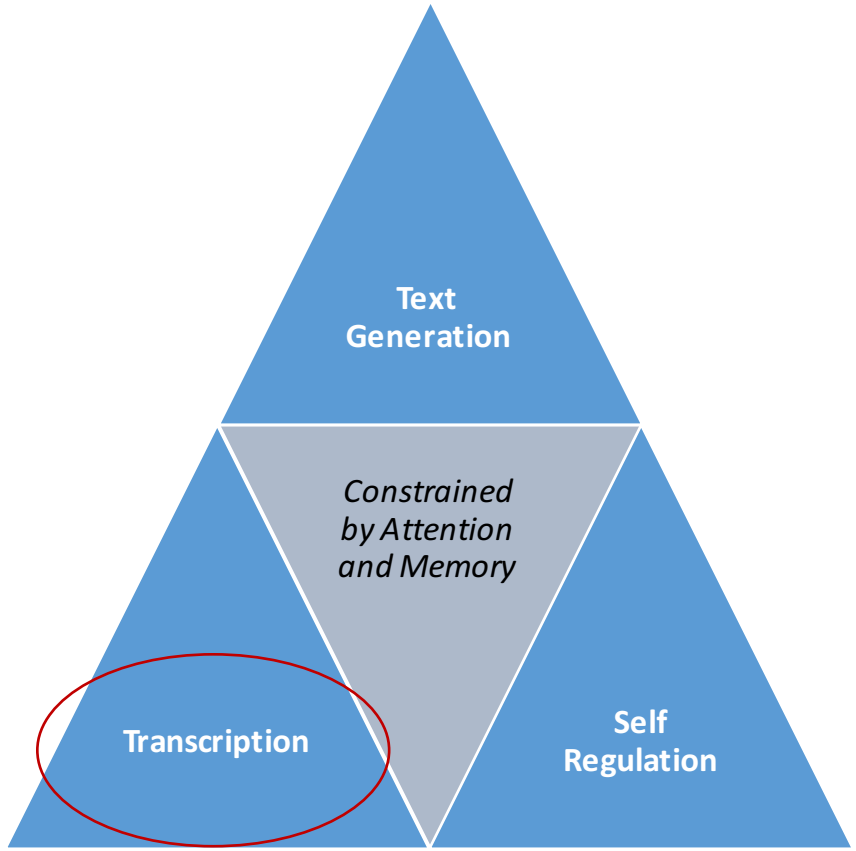
Academics & Behavior

- Task avoidance is maintained via a poor match between instruction with task demand and the student's academic skills (Carr & Durand, 1985; McComas, Hoch, Paone, and ElRoy, 2000 Schieltz, 2013; Wacker et al., 2011).
- The Early Writing Projects tools help teacher's select the best CBM-W to measure the student's progress as well as create individualized WIPs that explicitly address the student's needs at accessible levels.
- Reinforcement should be contingent upon effort (e.g., time spent actively writing), not correct responding (Richman et al., 2001).

Key Components of Writing

What Are The Key Components Of Writing?

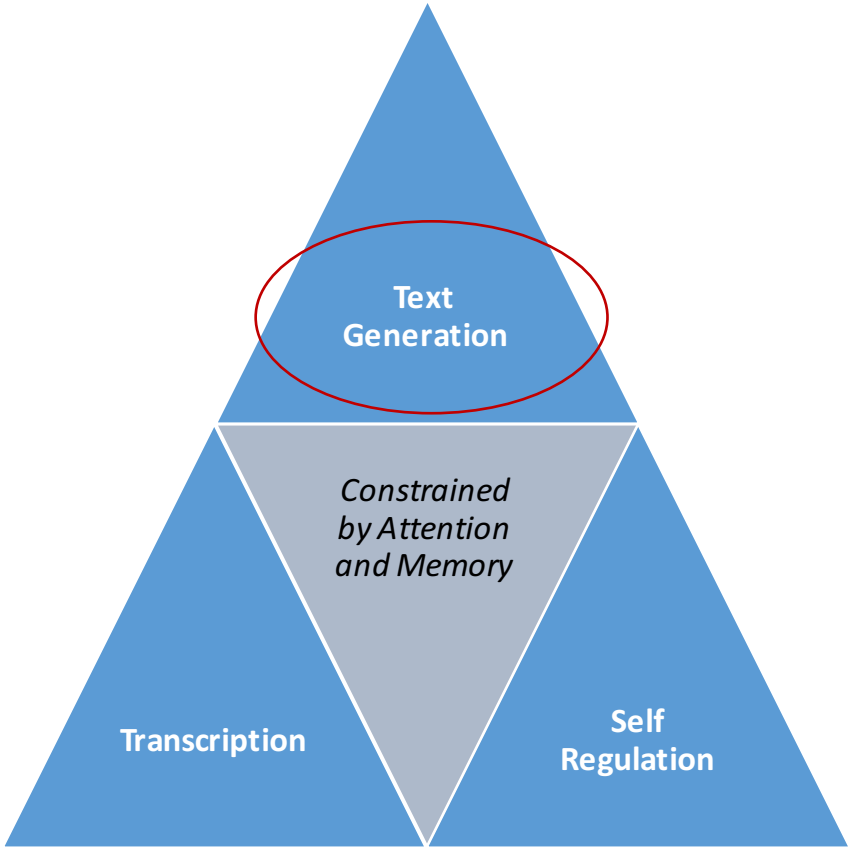
- ***Transcription***
  - Translating sounds, words, sentences, and passages into print
  - Includes handwriting or typing, spelling, and mechanics



Simple View of Writing

What Are The Key Components Of Writing?

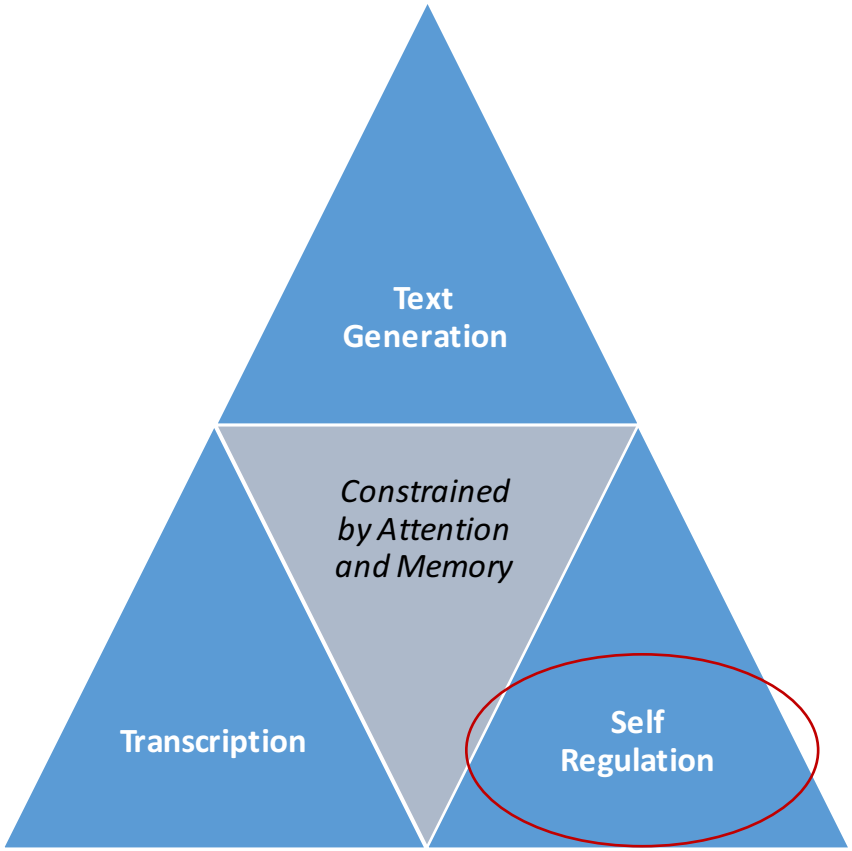
- ***Text generation***
  - Turning ideas into text (words, sentences, passages)
  - Includes idea generation, word choice, content, text structure, genre



Simple View of Writing

What Are The Key Components Of Writing?

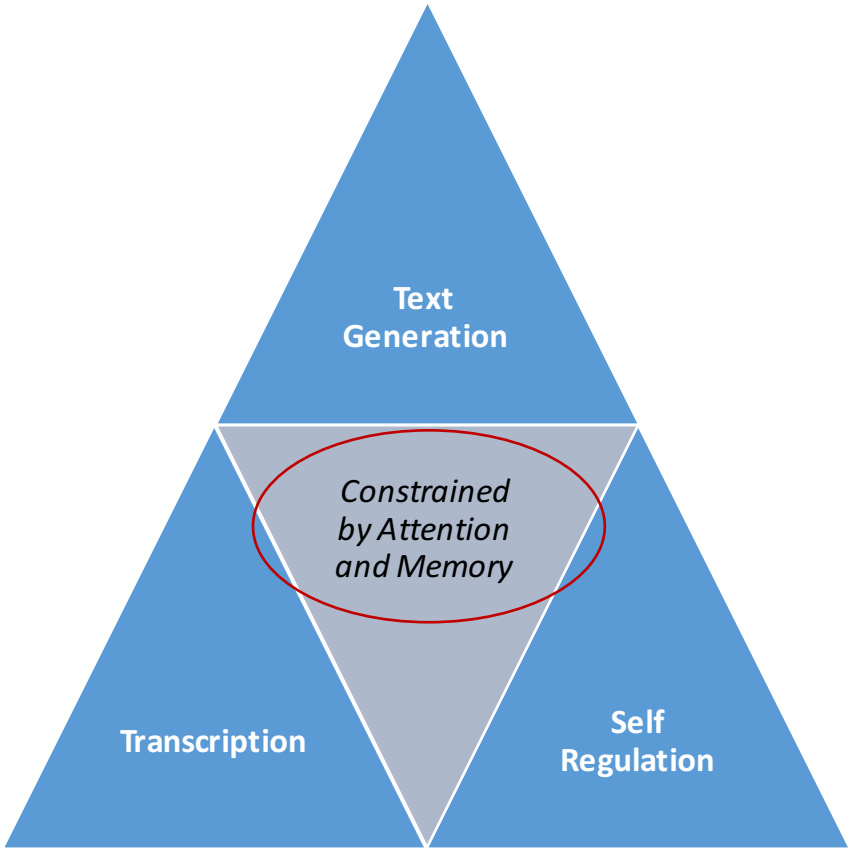
- ***Self-regulation***
  - What writers do to meet their writing goals
  - Includes goal setting, planning, organizing, self-monitoring, self-evaluating, revising, and self-rewarding



Simple View of Writing

What Are The Key Components Of Writing?

- *All of these components are constrained by the student's attention and memory*



Simple View of Writing

Utilizing CBMs

Overview of CBM

- Curriculum-based measurement (CBM) entails simple, efficient procedures that provide *global indicators* of student performance and progress in core academic domains.

Overview of CBM

Four key characteristics of CBM (Deno, 1985):

1. *Reliable and valid*
2. *Simple and efficient*
3. *Easy to understand*
4. *Inexpensive*

How is CBM different from other writing assessments?

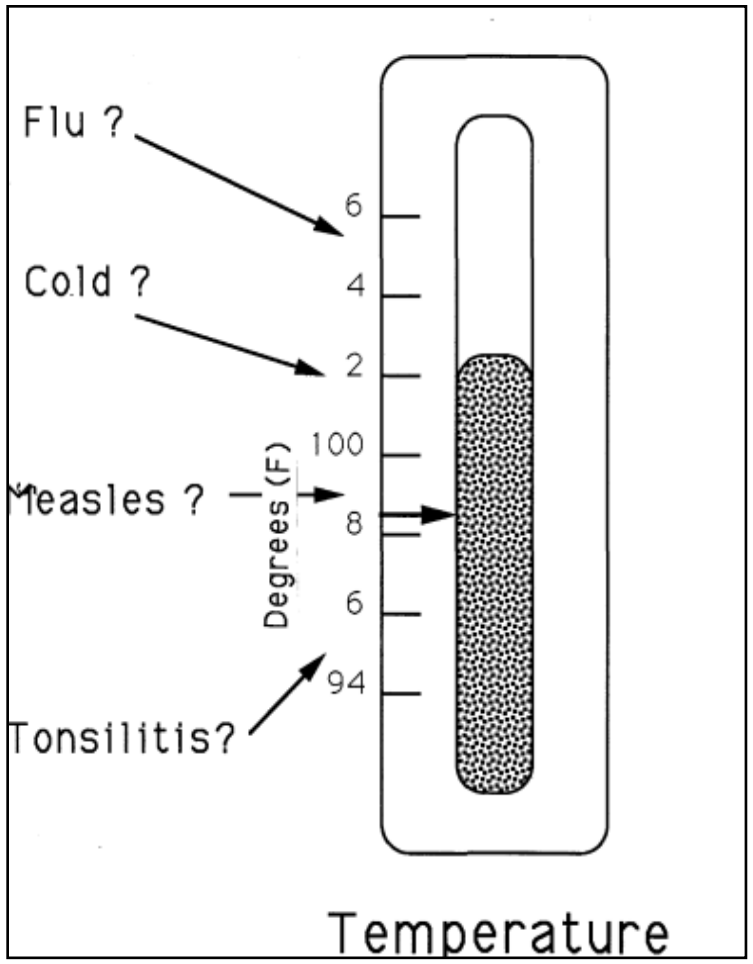
CBM can…

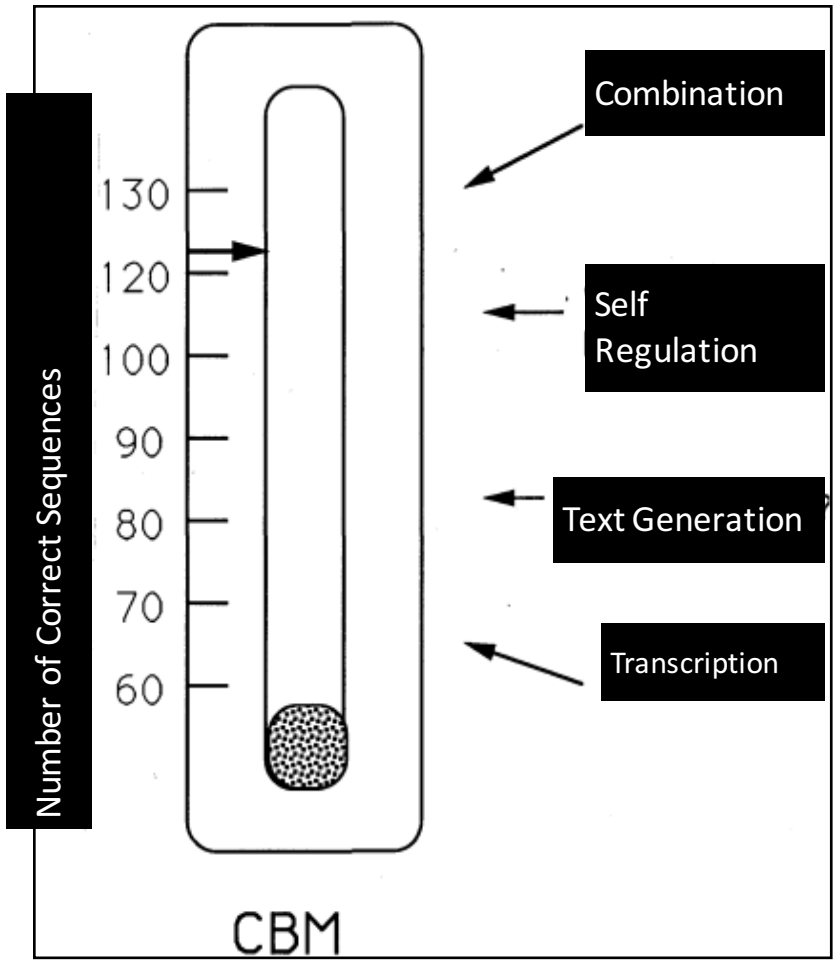
- supplement informal diagnostics by providing different information
- be given frequently (weekly or daily)
- be relatively easy to administer and score
- measure very small increments of student progress
- signal the need for further diagnosis and intervention

How is CBM different from other writing assessments?

- CBM is used as a ***general outcome measure***, or a ***global indicator*** of writing ability, as opposed to a specific skill measure.
- Timed assessment: Fluency, or speed, of writing is assessed because it is strongly correlated with overall writing proficiency.

CBM: An Index of Academic Health





The Early Writing Project

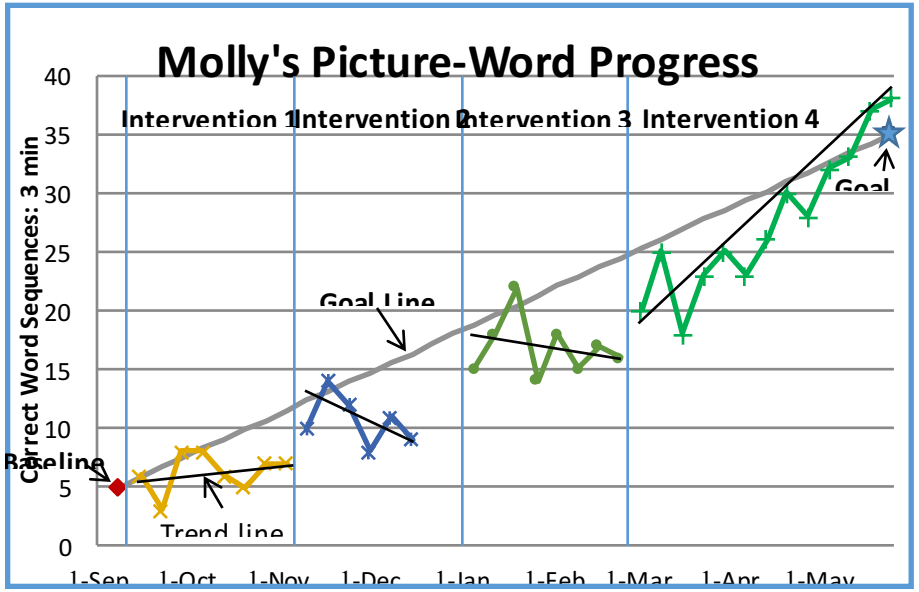
Think about something you have tracked in your life

- Blood pressure
- Mile time
- Weight loss
- Height and weight of a child
- Steps

- These are all indicators that we track or monitor as we consider our own health, life goals, and everyday occurrences.

CBM is a way to monitor academic health!

Academic progress is monitored over time in a quick, relatively non-invasive way to have an idea of how things are going.

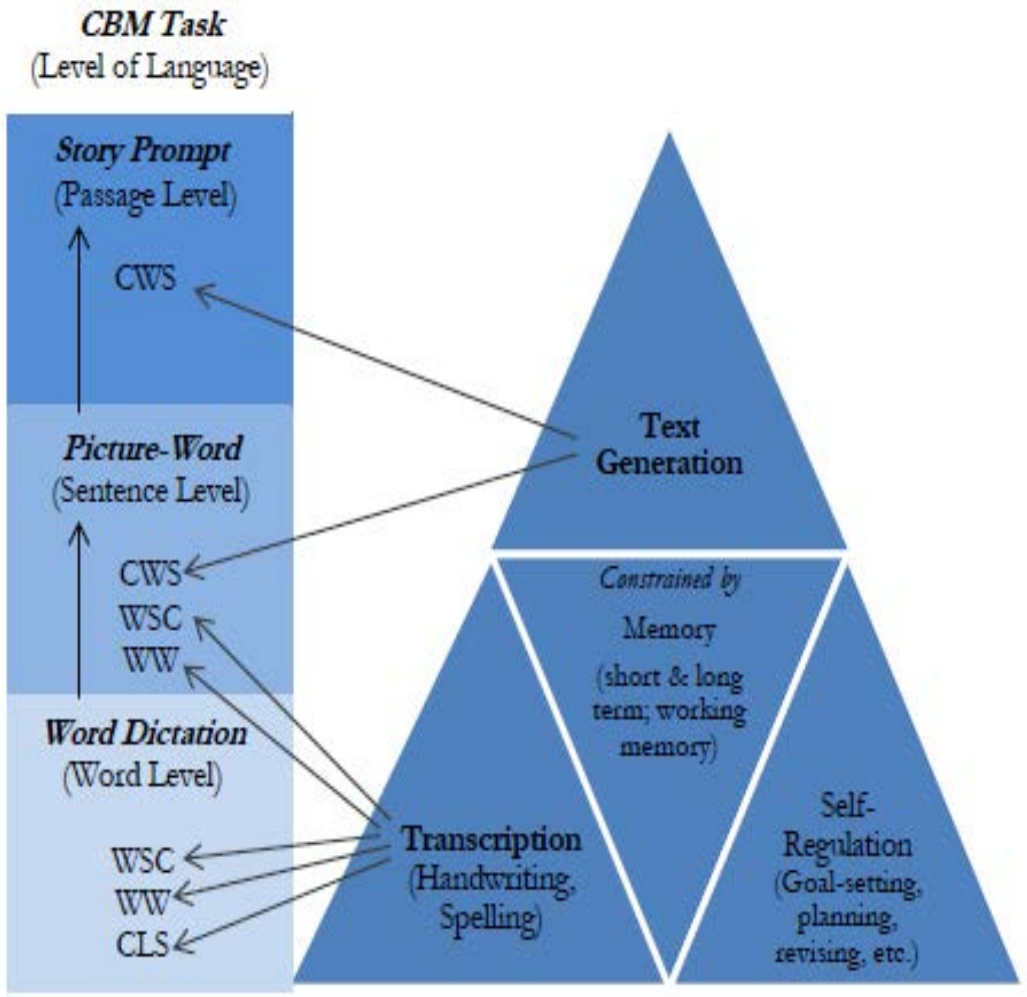


The Early Writing Project

Following the process

Step 1: Establish Present Level of Writing Performance

a. Select a CBM task
b. Administer three *different* CBM prompts of the same measure
c. Score the three baseline prompts
d. Determine the **median score** of the three prompts
e. Graph this baseline score



CBM Tasks Aligned with Levels of Language and Components of Writing.

Note:

CLS = Correct Letter Sequences

WW = Words Written

WSC = Words Spelled Correctly

CWS = Correct Word Sequences

Selecting an Appropriate CBM Task

Selecting an Appropriate CBM Task

1. Identify a student who is struggling in writing: _____

2. Identify this student's level of writing performance:

   For each, place a check mark in the box indicating the area(s) in which the student is struggling.

Transcription	**Handwriting**	**Spelling**	**Mechanics**
Text Generation	**Words**	**Sentence**	**Passage**

3. Based on the above information, identify the area that is most problematic for this student.

Student is…	***struggling with transcription***	***struggling with text generation***
developing word-level skills	Use Word Dictation	
developing sentence-level skills	Use Picture-Word	Use Picture-Word
developing passage-level skills		Use Story Prompt

**Also consider: What is the goal for this student by the end of this school year?

4. Determine the CBM task and scoring method for monitoring this student's progress based on his/her present levels of writing performance.
   - Possible scoring methods to use: WW, WSC, CLS or CWS, ILS or IWS.
   - For students who are struggling with word-level writing skills, scoring CLS on Word Dictation may be the most sensitive measure.
   - Consider that CWS is a more comprehensive measure of writing skill development than WW or WSC. It is also associated with higher alternate form reliability and criterion validity.

5. Using the measure identified in #3 above, administer three ***different*** prompts of the ***same task*** within one week and take the median score to establish baseline.

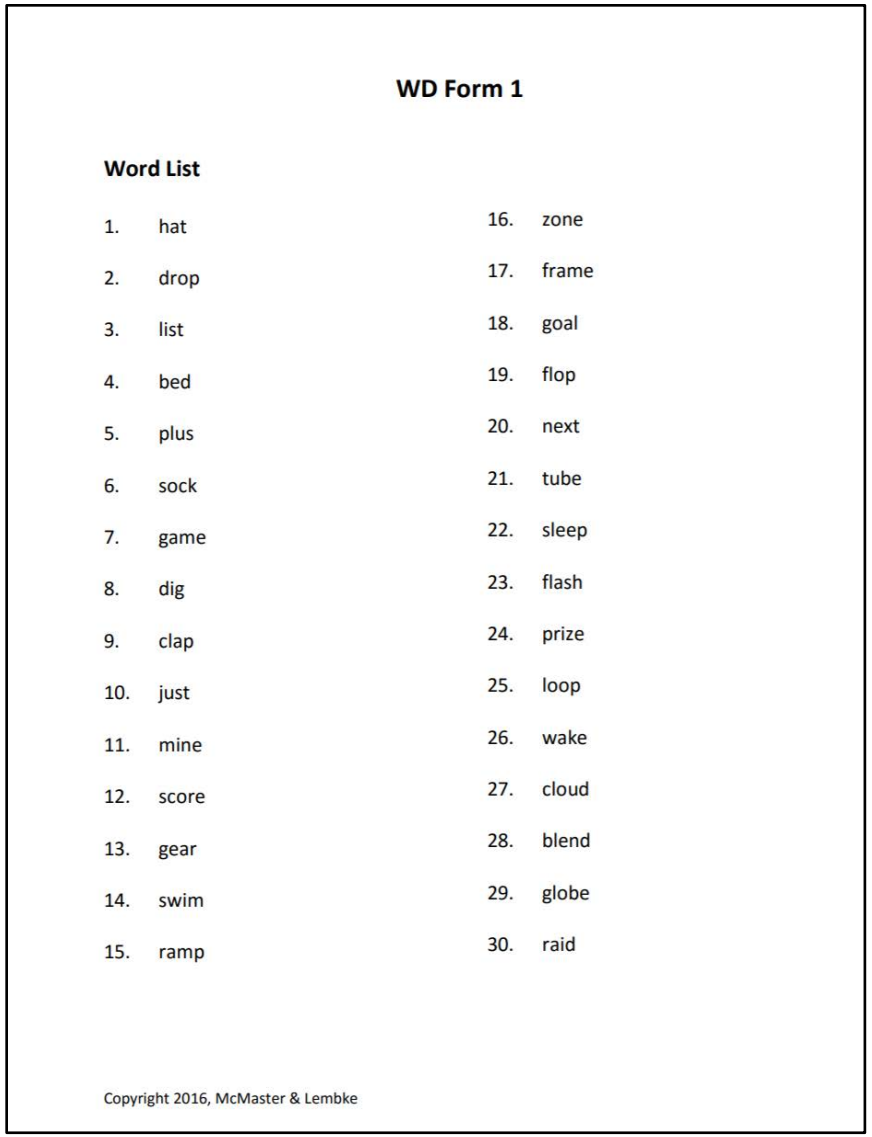
CBM-W Tasks

- Word Dictation (word level)
- Picture Word (sentence level)
- Story Prompt (passage level)

Word Dictation

- Word Dictation prompts are designed to capture ***transcription*** skills at the ***word level***.
- Constructed with 6 types of word patterns (Common Core Standards for Grades 1-2)
- Each Word Dictation prompt contains 30 words and is administered individually for 3 minutes.

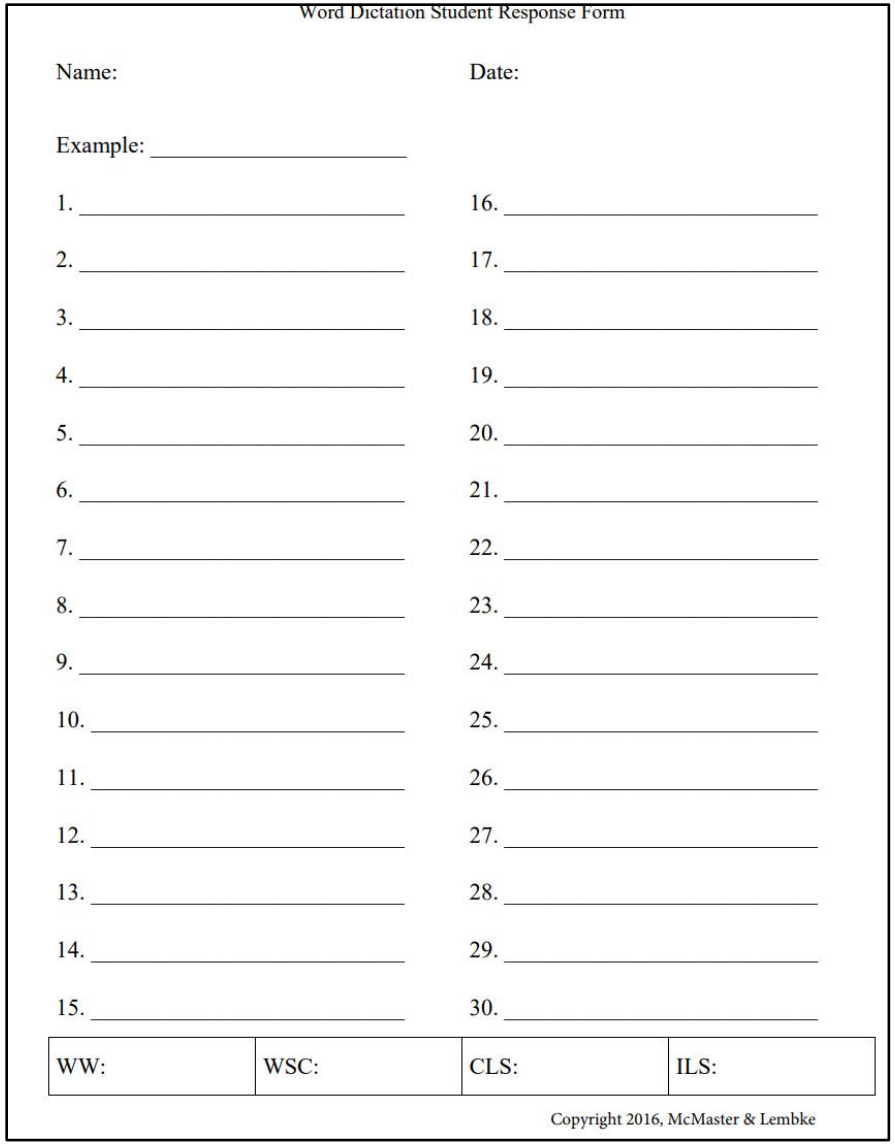
Word Dictation



WD Form 1

Word List

1.	hat	16.	zone
2.	drop	17.	frame
3.	list	18.	goal
4.	bed	19.	flop
5.	plus	20.	next
6.	sock	21.	tube
7.	game	22.	sleep
8.	dig	23.	flash
9.	clap	24.	prize
10.	just	25.	loop
11.	mine	26.	wake
12.	score	27.	cloud
13.	gear	28.	blend
14.	swim	29.	globe
15.	ramp	30.	raid



Word Dictation Student Response Form

Name: Date:

Example: _____

1. _____		16. _____	
2. _____		17. _____	
3. _____		18. _____	
4. _____		19. _____	
5. _____		20. _____	
6. _____		21. _____	
7. _____		22. _____	
8. _____		23. _____	
9. _____		24. _____	
10. _____		25. _____	
11. _____		26. _____	
12. _____		27. _____	
13. _____		28. _____	
14. _____		29. _____	
15. _____		30. _____	

WW:	WSC:	CLS:	ILS:

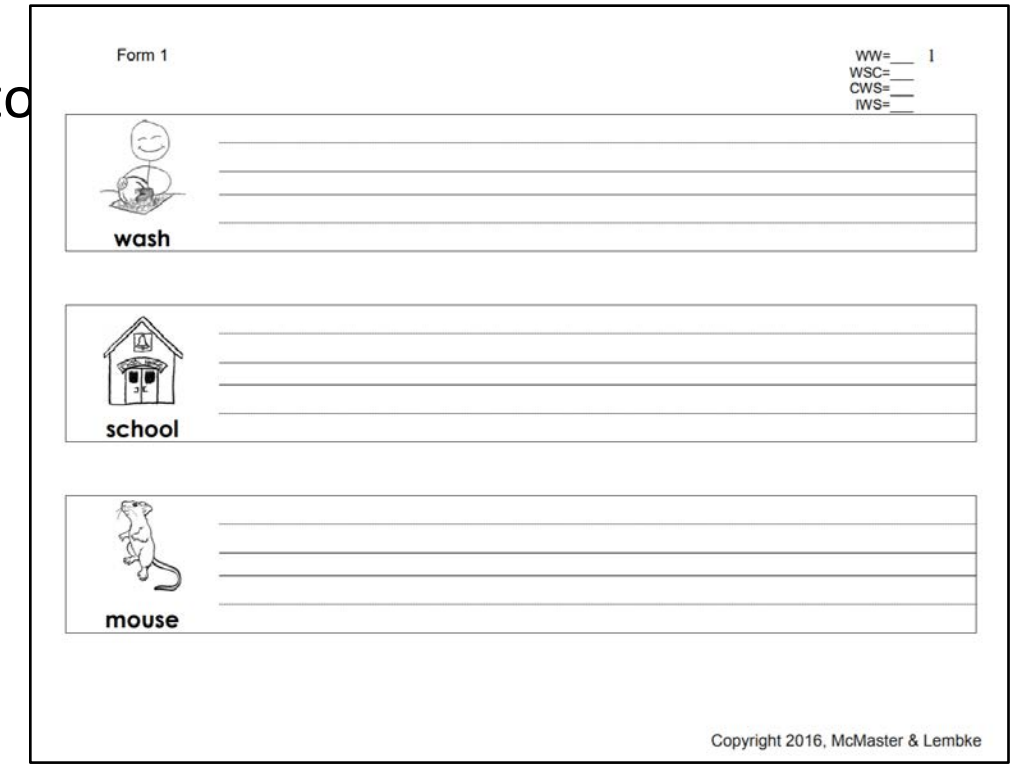
The Early Writing Project

Word Dictation – Word Patterns:

1. Consonant-Vowel-Consonant (**CVC**) words: ***cat***
2. Consonant-Consonant-Vowel-Consonant (**CCVC**) words: ***slip***
3. Consonant-Vowel-Consonant-silent e (**CVCe**) words: ***bake***
4. Consonant-Consonant-Vowel-Consonant-silent e (**CCVCe**) words: ***plate***
5. Consonant-Consonant-Vowel-Consonant-Consonant(**CCVCC**) words: ***plant***
6. Consonant-Vowel-Vowel-Consonant (**CVVC**) words: ***soap***

Picture Word

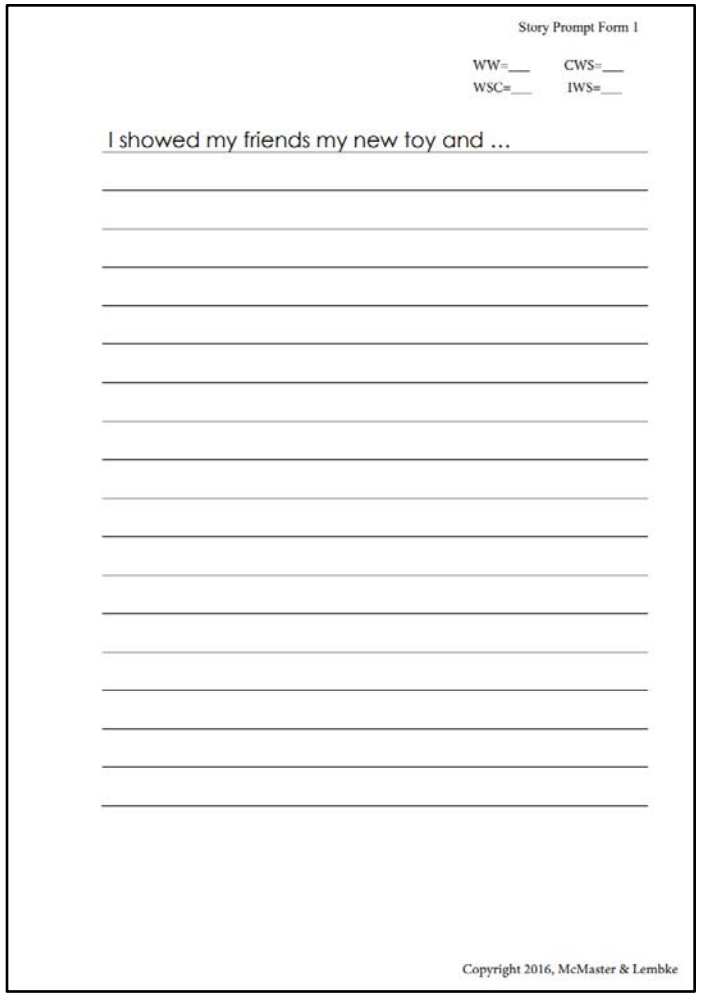
- Picture-Word Prompts are designed to capture ***transcription*** and ***text generation*** at the ***sentence level***.
- Each Picture-Word prompt contains 12 pictures/words and is group-administered for 3 minutes.



The Early Writing Project

Story Prompts

- Story Prompts are designed to capture ***transcription*** and ***text generation*** at the ***passage level***.
- Students generate a story in response to the Story (open-ended sentence) Prompt.
- Each prompt is group-administered for 3 minutes.



Story Prompt Form 1

WW=___ CWS=___
WSC=___ IWS=___

I showed my friends my new toy and ...

Scoring CBM-W: Word Dictation

Task	Scoring Method
Word Dictation	Words Written (WW) Words Spelled Correctly (WSC) Correct Letter Sequences (CLS) Incorrect Letter Sequences (ILS)

Scoring CBM-W: Word Dictation

- **Words Written (WW):** The total number of words written in the sample.
  - A “word” is defined as a sequence of letters separated by a space from another sequence of letters.

- **Words Spelled Correctly (WSC):** The number of correctly spelled words written in the sample as checked with spell checker.

Scoring CBM-W: Word Dictation

- **Correct Letter Sequences (CLS):** Any two adjacent letters in a word that are correct in terms of spelling

- **Incorrect Letter Sequences (ILS):** Any two adjacent letters in a word that are incorrect in terms of spelling

Word Dictation Guided Practice

Student Response

1. ^H^a^t^
2. ^B^e^d^
3. ^S ^p ^i ^n
4. G u^m^p p^

Word List

1. H a t
2. B e d
3. S p i n e
4. J u m p

WW: 4 WSC: 2 CLS: 14 ILS: 5

Scoring CBM-W: Picture Word

Task	Scoring Method
Picture-Word	Words Written (WW) Words Spelled Correctly (WSC) Correct Word Sequences (CWS) Incorrect Word Sequences (IWS) Correct Word Sequences per Response (CWSR)

Scoring Picture Word

- Read the entire written sample.
- Count the number of words written.
- Underline (in red) incorrectly spelled words.
- Mark the end and/or beginnings of each sentence with a | (in blue).
- Mark CWS and IWS.

Scoring CBM-W (PW)

- **Words Written (WW):** The total number of words written in the sample.
  - A “word” is defined as a sequence of letters separated by a space from another sequence of letters.

Scoring Procedures (PW)

- **Words spelled correctly (WSC):**
  - The number of correctly spelled words written in the sample.
  - Words spelled correctly are counted regardless of whether they are used correctly within the context of the sentence.

    Example: I am going **two** the park.

Scoring CBM-W (PW)

- **Correct Word Sequences (CWS):** Any two adjacent words that are correct in terms of spelling, grammar, capitalization, and punctuation

- **Incorrect Word Sequences (IWS):** Any two adjacent words that are incorrect in terms of spelling, grammar, capitalization, and punctuation

Scoring CBM-W (PW)

- **Correct Word Sequences per Response (CWSR):** Divide CWS by the number of pictures with responses.
  - This metric was developed recently. We don't have benchmarks available, however, it can be a useful tool in progress monitoring.

Picture Word Guided Practice

Cat

^My^ cat ^ates^ a^ mouse.^

Dog

^That^ dog^ is^ good^

Towel

^don't^ forget^ your^ towel^

WW: 13 WSC: 12 CWS: 11 IWS: 5

Scoring CBM-W: Story Prompt

Task	Scoring Method
Story Prompt	Words Written (WW) Words Spelled Correctly (WSC) Correct Word Sequence (CWS) Incorrect Word Sequence (IWS)

Notice that the scoring procedures are exactly the same as PW!

Scoring CBM-W (SP)

- **Words Written (WW):** The total number of words written in the sample.
  - A “word” is defined as a sequence of letters separated by a space from another sequence of letters.
- **Words spelled correctly (WSC):**
  - The number of correctly spelled words written in the sample.
  - Words are counted regardless of whether they are used correctly within the context of the sentence

Scoring CBM-W (SP)

- **Correct Word Sequences (CWS):** Any two adjacent words that are correct in terms of spelling, grammar, capitalization, and punctuation

- **Incorrect Word Sequences (IWS):** Any two adjacent words that are incorrect in terms of spelling, grammar, capitalization, and punctuation

Story Prompt Guided Practice

WW: 30 WSC: 26 CWS: 19 IWS: 14

Let's practice together!

today I want to the park to see my freind who is

my best freind he likes to play footbal like me

and has a dog his dog eats snales

Step 2: Set an Ambitious Long-Term Goal

a. Determine an end-date
b. Determine long-term goal
c. Plot the long-term goal
d. Draw a goal line

Step 2a: Determine an End Date

- Determine the end-date of the instructional period in which you will monitor progress.
  - The instructional period is often the end of the semester or school year.
  - For students receiving special education services, the end date would often be the end of the IEP cycle.

Step 2b: Determine Long-Term Goal

- Determine the level at which you expect the student to perform at the end of this instructional period.
- This level is the student's long-term goal.

Two options for goal-setting

- Option 1: End-of-Year Benchmark
- Option 2: Normative Growth Rates

Words Written						
	Benchmarks			ROI		
Percentile	Fall	Winter	Spring	F-W	W-S	F-S
90th	30	38	45	0.67	0.58	0.63
75th	23	29	38	0.50	0.75	0.63
50th	17	23	29	0.50	0.50	0.50
25th	13	16	21	0.25	0.42	0.33
10th	7	11	14	0.33	0.25	0.29
N	139	148	141	--	--	--
Mean	18.55	23.66	29.58	--	--	--
SD	8.59	10.68	11.64	--	--	--
Words Spelled Correctly						
	Benchmarks			ROI		
Percentile	Fall	Winter	Spring	F-W	W-S	F-S
90th	26	35	41	0.75	0.50	0.63
75th	19	26	34	0.58	0.67	0.63
50th	14	19	25	0.42	0.50	0.46
25th	10	13	18	0.25	0.42	0.33
10th	6	8	11	0.17	0.25	0.21
N	139	148	141	--	--	--
Mean	15.27	20.11	26.04	--	--	--
SD	7.95	10.39	11.29	--	--	--
Correct Word Sequences						
	Benchmarks			ROI		
Percentile	Fall	Winter	Spring	F-W	W-S	F-S
90th	24	36	47	1.00	0.92	0.96
75th	18	25	34	0.58	0.75	0.67
50th	11	16	23	0.42	0.58	0.50
25th	7	9	14	0.17	0.42	0.29
10th	4	4	8	0.00	0.33	0.17
N	139	148	141	--	--	--
Mean	13.01	17.99	25.23	--	--	--
SD	8.30	11.90	13.87	--	--	--

Option 1: End-of-Year Benchmark

- Identify the end-of-year CBM benchmark for typically developing students at the grade level the student is being monitored.

- Use this benchmark as the long-term goal.

End-of-Year Benchmark Example

- Student: 2nd grader, baseline PW = 6 CWS
- End-of-Year Benchmark = 37 CWS
- To Set Goal:
  - Plot Baseline
  - Plot End-of-Year Benchmark
  - Draw goal line

Words Written						
	Benchmarks			ROI		
Percentile	Fall	Winter	Spring	F-W	W-S	F-S
90th	46	49	53	0.25	0.33	0.29
75th	37	43	48	0.50	0.42	0.46
50th	26	35	41	0.75	0.50	0.63
25th	21	25	33	0.33	0.67	0.50
10th	15	17	24	0.17	0.58	0.38
N	176	142	179	--	--	--
Mean	28.81	34.02	40.20	--	--	--
SD	12.43	12.51	10.93	--	--	--
Words Spelled Correctly						
	Benchmarks			ROI		
Percentile	Fall	Winter	Spring	F-W	W-S	F-S
90th	42	47	50	0.42	0.25	0.33
75th	32	39	45	0.58	0.50	0.54
50th	22	31	38	0.75	0.58	0.67
25th	17	22	30	0.42	0.67	0.54
10th	13	16	22	0.25	0.50	0.38
N	176	142	179	--	--	--
Mean	25.41	31.02	37.36	--	--	--
SD	11.71	11.78	10.94	--	--	--
Correct Word Sequences						
	Benchmarks			ROI		
Percentile	Fall	Winter	Spring	F-W	W-S	F-S
90th	42	51	54	0.75	0.25	0.50
75th	31	39	47	0.67	0.67	0.67
50th	21	30	37	0.75	0.58	0.67
25th	14	22	28	0.67	0.50	0.58
10th	8	14	20	0.50	0.50	0.50
N	176	142	179	--	--	--
Mean	23.04	31.51	37.82	--	--	--
SD	12.30	13.88	13.68	--	--	--

Option 2: Normative Growth Rates

- Identify the average weekly growth rate —or **normative growth rate**--- for typically developing students at the grade level at which the student is being monitored.
- To determine the goal, use the formula:
- GOAL = baseline + (desired growth rate × number of weeks)

Normative Growth Rate

Example

Student: 1st grader, baseline WD = 6 CLS

Benchmark Weekly Growth Rate = .80 CLS

Instructional Period = 16 weeks

To Set Goal:

GOAL = baseline + (desired growth rate × number of weeks)

= 6 + (.80 x 16)

= 6 + 12.8

= 18.8 (round up to 19)

Step 2c: Plot the Long-Term Goal

- Plot the long-term goal point on the last date of the instructional period.

Graphing

- Graphed data will provide you with a clear picture of a student's progress
- Consider using Excel for graphing
- The graph will allow you to:
  - Set reasonable and ambitious goals,
  - Monitor the appropriateness of the student's goal,
  - Judge the adequacy of the student's progress,
  - Determine the effectiveness of the student's writing instructional program,
  - Use decision rules to make changes to the student's instructional program when needed.

Student: _____

Measure: Word Dictation

Scoring Method: Correct Letter Sequences

End Goal: 60

Projected End Date: 3/8/2019

Goal Rate of Improvement: *1.432748538*

Questions?

- www.earlywritingproject.org