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Development of Reading Performance Benchmarks

Prepared for the USAID workshop
“EGRA Basics and Beyond”

November 2015

Session Objectives

- Why is it essential for education officers to have a firm understanding of benchmarking?

Overview of Session Objectives

By the end of this session, participants will have:

- A sound understanding of what data and processes are needed to work with a country to set benchmarks
- Guidelines for conducting benchmarking work
- Recommendations for conducting benchmarking based on lessons learned and current best practice

What are benchmarks?

A benchmark is a standard or point of reference against which things may be compared or assessed.

- Benchmark errors in a factory:
 - ✓ not more than 1 defect per 1,000 items
- Benchmark performance of athletes:
 - ✓ 11 seconds to run 100 meters
- Benchmark skills (e.g., reading) to evaluate student progress:
 - ✓ 80% comprehension of text

Why create benchmarks for reading?

- Establish expectations or norms for reading performance (especially in mother tongues). EGRA does not provide norms, but it generates data you can use to define norms
- Use benchmarks to give specificity to the curriculum and create clearer expectations
- Establish objectives against which to gauge progress – translate ultimate goals into manageable measures of performance at specific points
- Assist teachers, principals, school supervisors – enabling them to target help where needed
- Create means to communicate publicly about improvement, e.g.:
 - School report cards
 - National-level monitoring and reporting



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Process for Setting Benchmarks

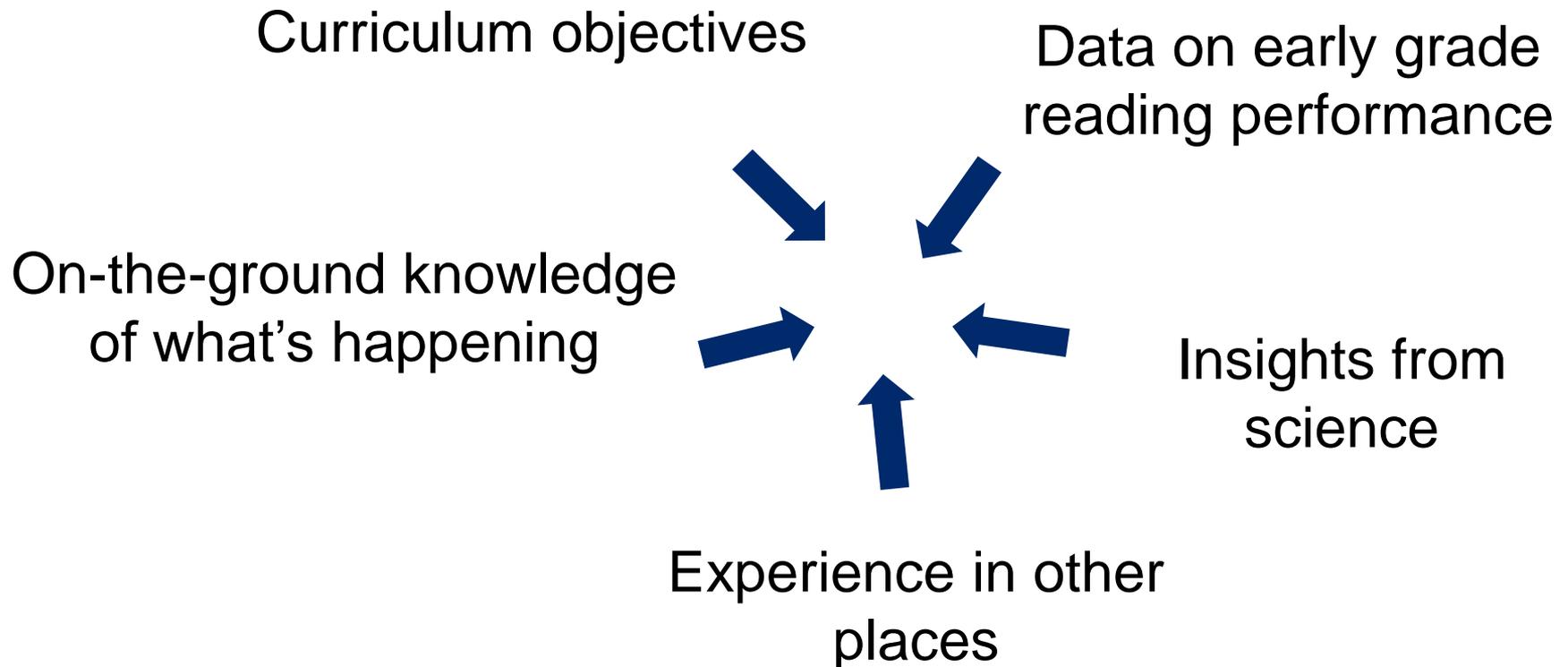


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Process for Setting Benchmarks

Process for Setting Benchmarks: Science or Art?

- Both
- Common sense / science + statistics + wisdom



Setting Benchmarks: DATA + Common Sense, Instinct, and Wisdom

- Begin with the data
- Draw on the experience of practitioners, coaches, teachers, experts (their instinct as to what is possible)
- These practitioners, coaches, etc., should:
 - Be familiar with the field and related data
 - Have experience in coaching teachers using the metrics (for example, using the metric “correct words per minute”)

**Use data analysis combined with
instinct or wisdom—
i.e., not just anyone with any opinion!**

Reading Skills Development and EGRA Subtasks

What being a good reader requires

Some of what EGRA measures

Reading text well enough to understand it

Reading comprehension

Oral reading fluency

Being able to read familiar words

Familiar-word fluency

Being able to decode unfamiliar words

Nonword reading/decoding

Knowing letters and letter sounds

Phonological/phonemic awareness—
Letter sounds, syllable reading, dictation

Letter names

Knowing enough language to be able to understand things

Listening comprehension

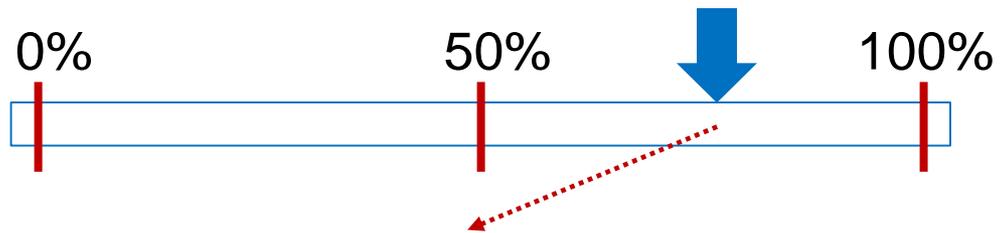


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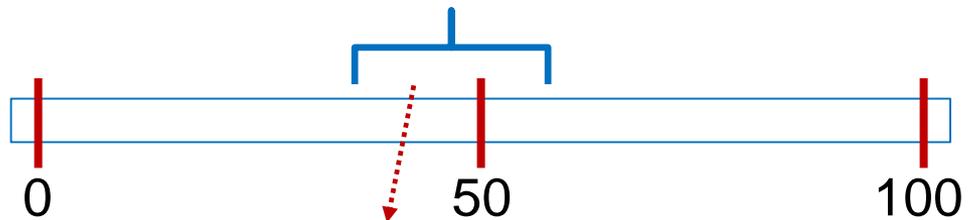
Establishing Benchmarks and Setting a Target

Summary of the Benchmarking Process

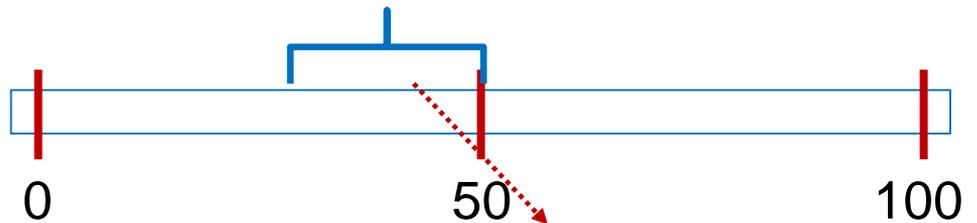
Comprehension
(% correct)



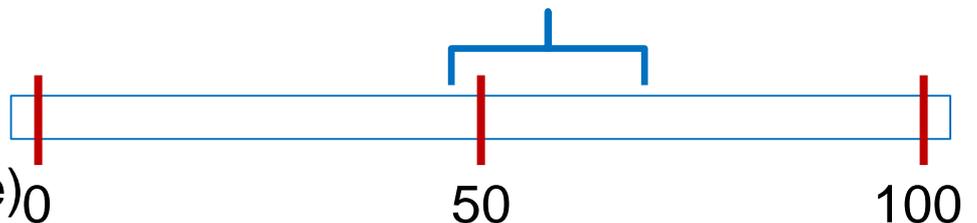
Oral reading fluency (ORF)
(correct words per minute)



Decoding
(correct nonwords per minute)



Letter or syllable sounds
(correct letter sounds per minute)



Step-by-Step Instructions

Step 1. Start with reading comprehension.

Step 2. Determine what you think is the appropriate level of comprehension students should be achieving (100%, 80%, 60%, ... of correct responses).

Step 3. Consider the present levels of average performance—for example: national data, intervention data, means with and without zeroes.

Step 4. When you have agreed on a benchmark value for reading comprehension (% correct), use the distribution table to see how many students from your data set were meeting that benchmark level of performance.

Step 5. Discuss what you think is an appropriate near-term target for the percentage of students who should be meeting the comprehension benchmark in five years.

Step-by-Step Instructions – continued

Step 6. After completing the exercise for reading comprehension, move on to oral reading fluency (ORF).

Step 7. Start by examining the relationship between oral reading fluency and comprehension and identify the range of ORF scores that correspond to the benchmark for comprehension that you chose.

Step 8. Decide where in that range the ORF benchmark should fall (in other words, choose a specific value that is within the range).

Step 9. Use the cumulative distribution graph to see how many students met the ORF benchmark.

Benchmarking Example: Ghana 2013, Grade 2 (English)

OBJECTIVES:

- Set a benchmark for ORF and reading comprehension.
- Find the percentage of pupils achieving this benchmark.
- Project the target percentage of pupils achieving this benchmark in 5 years.

USAID Partnership for Education: Ghana *Testing*, task order under Education Data for Decision Making (EdData II), 2012–2016, baseline assessment

Box Plot for ORF by Reading Comprehension, Ghana 2013, Grade 2 (English)

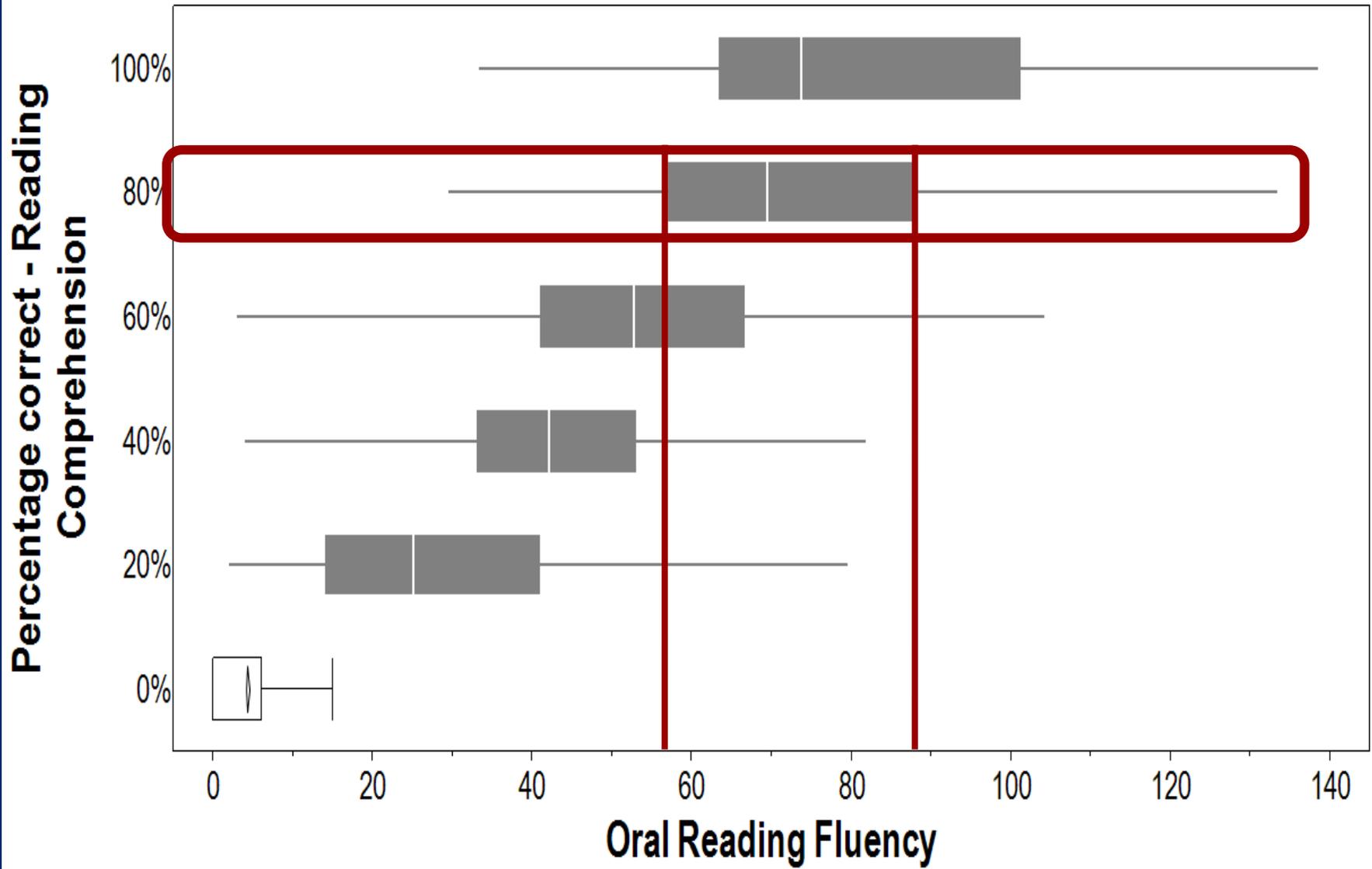


Table Corresponding to Box Plot for ORF by Reading Comprehension, Ghana 2013, Grade 2

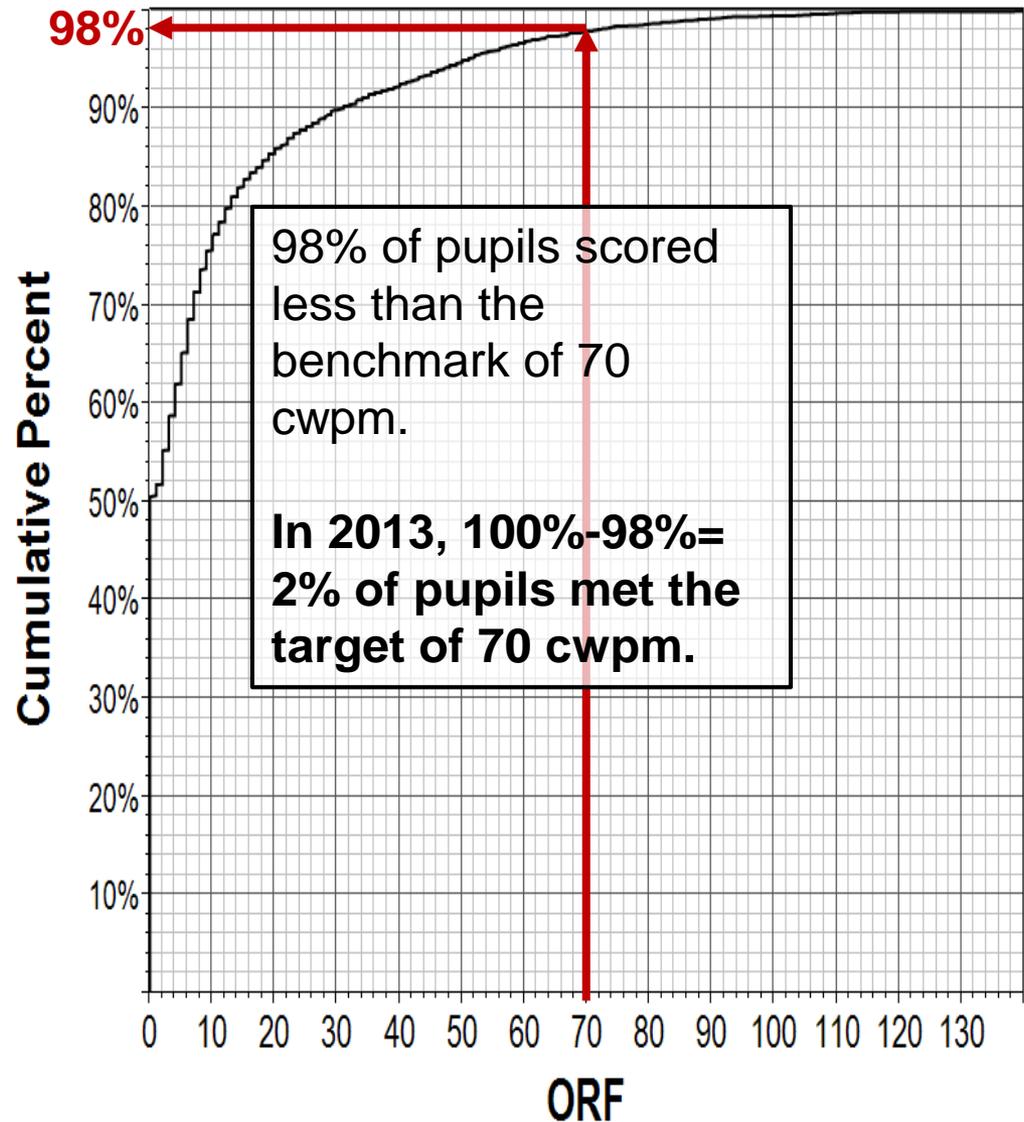
		Oral reading fluency: Number summary and mean					
Percent correct, reading comprehension	Mean	Minimum	25th percentile	50th percentile	75th percentile	Maximum	Sample count
0%	5	0	0	3	6	92	7060
20%	29	2	14	25	41	97	339
40%	45	4	33	42	53	124	232
60%	55	3	41	53	67	120	148
80%	73	29	57	69	88	138	89
100%	80	33	63	74	101	138	47

Distribution of Reading Comprehension Ghana 2013, Grade 2

Reading comprehension (% correct)	Percent	Count (no. of pupils)
Zero	89%	7,068
20%	4%	339
40%	3%	232
60%	2%	148
80%	1%	89
100%	1%	47

Levels of ORF Corresponding to 80% Reading Comprehension Ghana 2013, Grade 2

25th percentile	
50th percentile	
75th percentile	
	% (wt) Sample n
Zero	51% 4148
1-<10	25% 1918
10-<20	10% 777
20-<30	4% 317
30-<40	2% 202
40-<50	2% 173
50-<60	2% 147
60-<70	1% 76
70-<80	1% 50
80-<90	1% 45
90-<100	0% 26
100-<110	0% 20
110-<120	0% 9
120-<130	0% 4
130-<140	0% 3



Documenting Benchmarks - Hypothetical

Reading fluency benchmark and percentages of pupils meeting benchmark Ghana 2013, Grade 2

Subtask	Grade 2 benchmark	% of pupils presently meeting the suggested benchmark (2013)	Target % of pupils to meet the benchmark in 2014	Target % of pupils to meet the benchmark in 5 years
Reading comprehension (% correct)	80% correct	1%	3%	20%
Oral reading fluency (cwpm)	70	2%	5%	20%

When more data are available:

- Setting the target of the percentage of students meeting the benchmark can be challenging when we lack data to work with.
- We can use intervention data, or data from multiple grades, to set better targets.

Practice:

Indonesia (PRIORITAS) 2013, Grade 3 (Bahasa Indonesia)

OBJECTIVES:

- Set a benchmark for ORF.
- Find the percentage of pupils achieving this benchmark.
- Project the target percentage of pupils achieving this benchmark over the next 5 years.

Prioritizing Reform, Innovation, and Opportunities for Reaching Indonesia's Teachers, Administrators, and Students (PRIORITAS), 2012–2017, baseline assessment

Box Plot for ORF by Reading Comprehension, Indonesia (PRIORITAS) 2013, Grade 3 (Bahasa Indonesia)

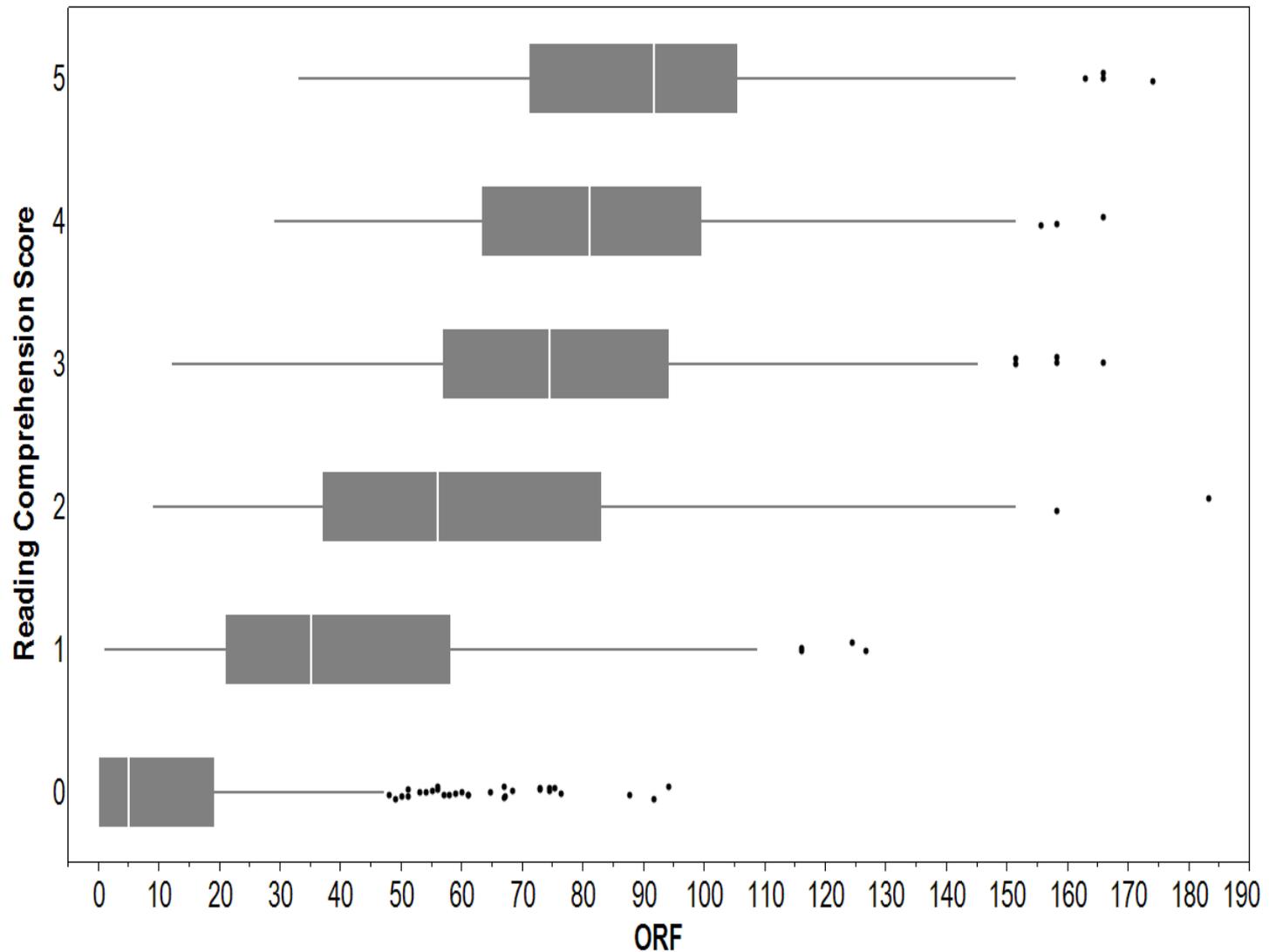
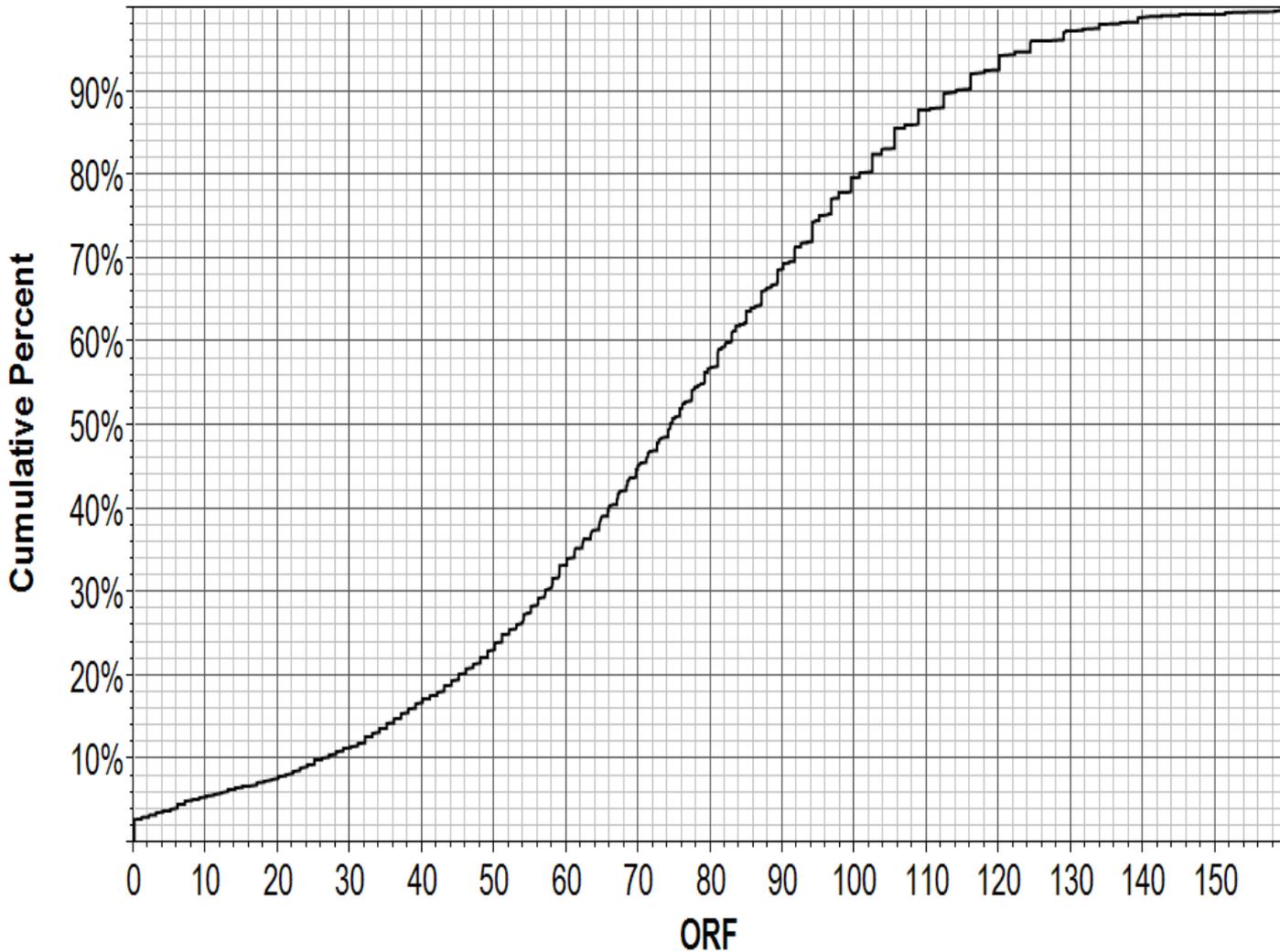


Table Corresponding to Box Plot for ORF by Reading Comprehension, Indonesia 2013, Grade 3

Oral Reading Fluency: Number summary and mean							
% Correct, Reading Comprehension	Mean	Minimum	25th percentile	50th percentile	75th percentile	Maximum	Sample Count
0%	13.9	0	0	5	19	94	315
20%	41.4	1	21	35	58	127	288
40%	61.4	9	37	56	83	183	382
60%	76.3	12	57	74	94	166	771
80%	81.9	29	63	81	99	166	992
100%	89.3	33	71	92	105	174	823

Cumulative Percent ORF

Indonesia (PRIORITAS), 2013, Grade 3



Documenting Benchmarks – Hypothetical

Reading fluency benchmark and percentages of pupils meeting benchmark, Indonesia 2013, grade 3

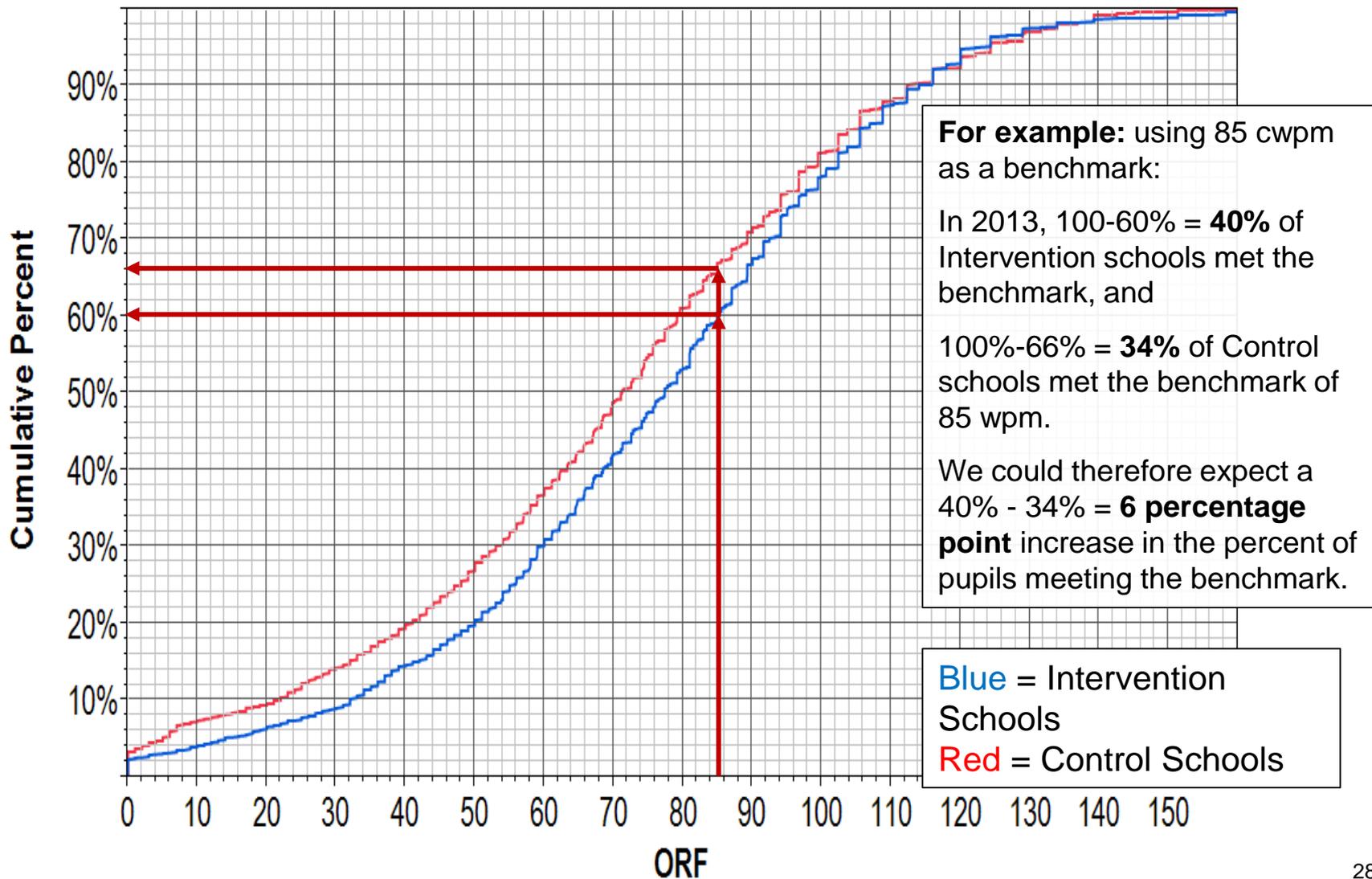
Subtask	Suggested benchmark	% of pupils meeting the benchmark in 2013
Oral reading fluency (cwpm)	82cwpm	40%

Adding Data from an Intervention Research Study

- Find the percentage of pupils who achieved the benchmark for the control and intervention schools.
- Find the difference between these two percent values—This becomes your potential increase in percentage of pupils achieving the proposed benchmark.
- Use this difference to project the percentage of pupils meeting the benchmark for the next 5 years.

Note: Be aware of how many years the intervention has been in place. Measurement—usually takes place after 1 or 2 years; the potential growth is over that period of time (Indonesia PRIORITAS was evaluated after 1 year)

Cumulative Percent, ORF Indonesia (PRIORITAS), 2013, Grade 3



Documenting Benchmarks – Hypothetical

Benchmark and targets for ORF Indonesia (PRIORITAS), Grade 3

			Targets: Projected percentage of pupils meeting benchmark				
Subtask	Suggested Benchmark	% of pupils meeting the benchmark in 2013	2014	2015	2016	2017	2018
Oral Reading Fluency (cwpm)	82 cwpm	40%	46%	52%	58%	64%	70%

Benchmarking Case Study – Activity

Instructions:

1. In your packet of materials, find the Jordan case study for benchmarking.
2. Read the objectives for your case study.
3. Complete the first row of the “Desired Outcome” table using the tables and graphs you have been provided.

Important Considerations

- Data:
 - Supply the data (prior to benchmarking workshop)
 - Match the data to the task
- Benchmarking workshop:
 - Have multiple small groups work simultaneously
 - Work across grade levels
 - Encourage discussion
- Benchmark and targets:
 - Limit the number of benchmarks
 - Set reasonable targets
 - Do not compromise on benchmarks
 - Think about institutionalization of benchmarks