Psychometric Adequacy of Dynamic Indicators of Basic Early Literacy Skills (DIBELS®)

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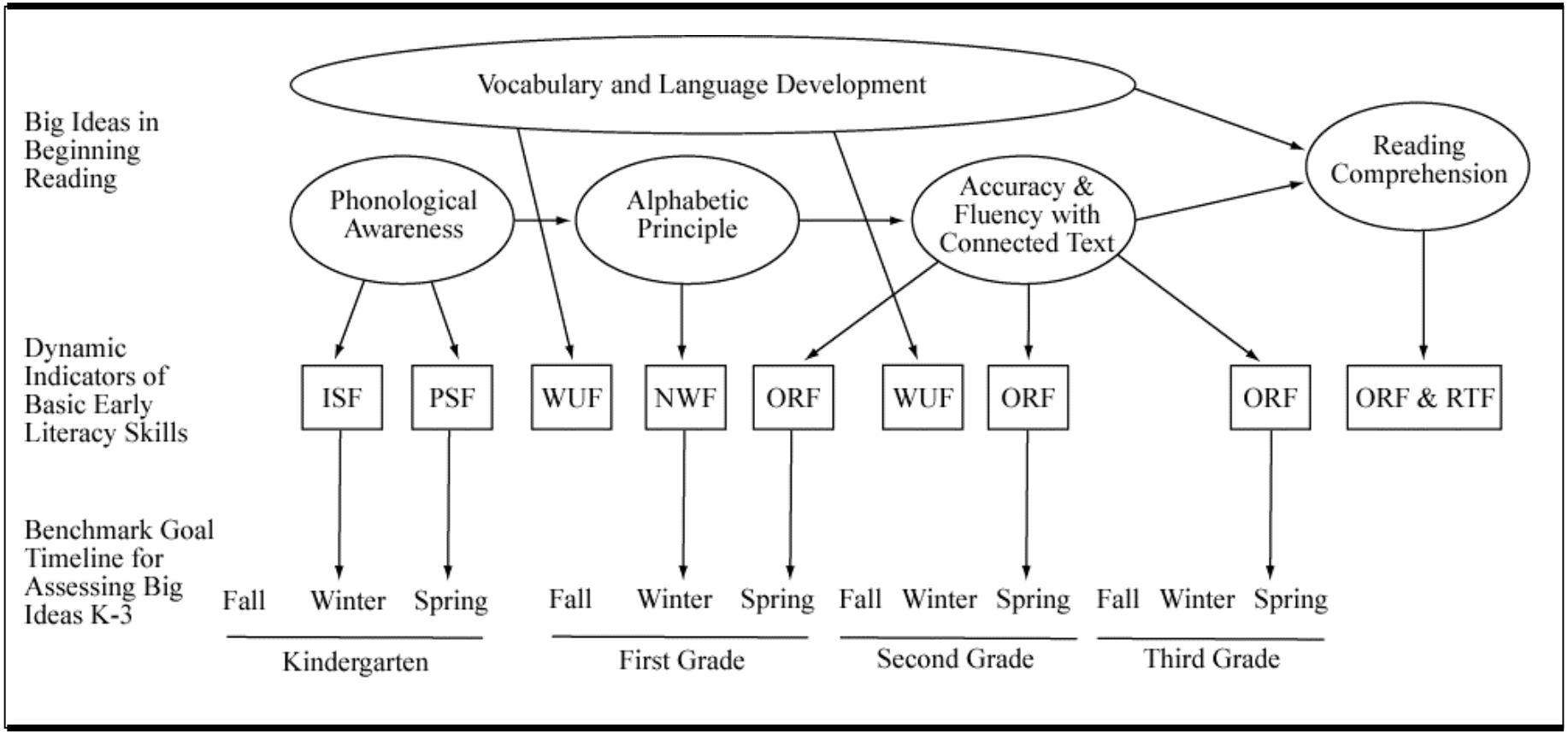
Five key elements of technical adequacy with regard to measures used to evaluate RtI

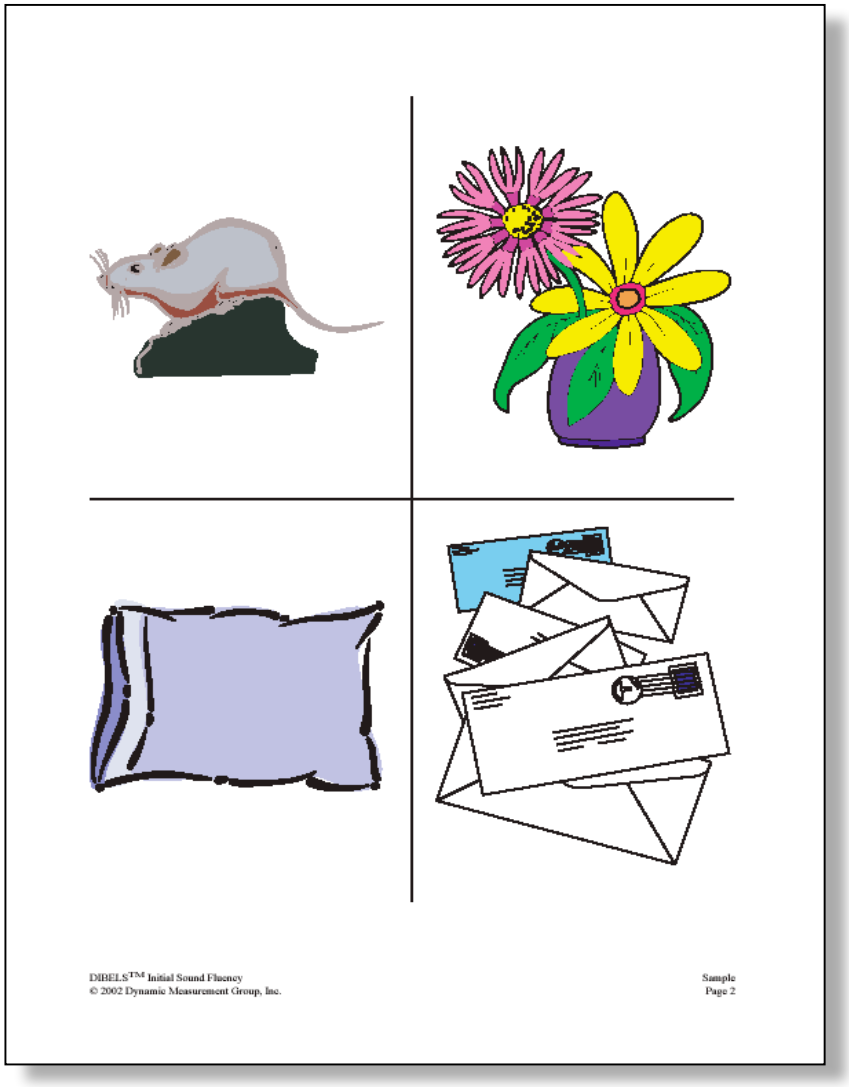
1. Reliability & Validity.
2. Decision Utility: *Do the data result in actions that are meaningful and important?*
3. Link to a Decision-Making Model: *Do we have a model to guide the data we collect and our interpretation of the results?*
4. Way to evaluate the general/overall effectiveness of support.
5. Way to evaluate the students' response to instruction.

Model of Big Ideas, Indicators, and Timeline



Adapted from Good, R. H., Simmons, D. C., & Kame'enui, E. J. (2001). The importance and decision-making utility of a continuum of fluency-based indicators of foundational reading skills for third-grade high-stakes outcomes. Scientific Studies of Reading, 5, 257-288.

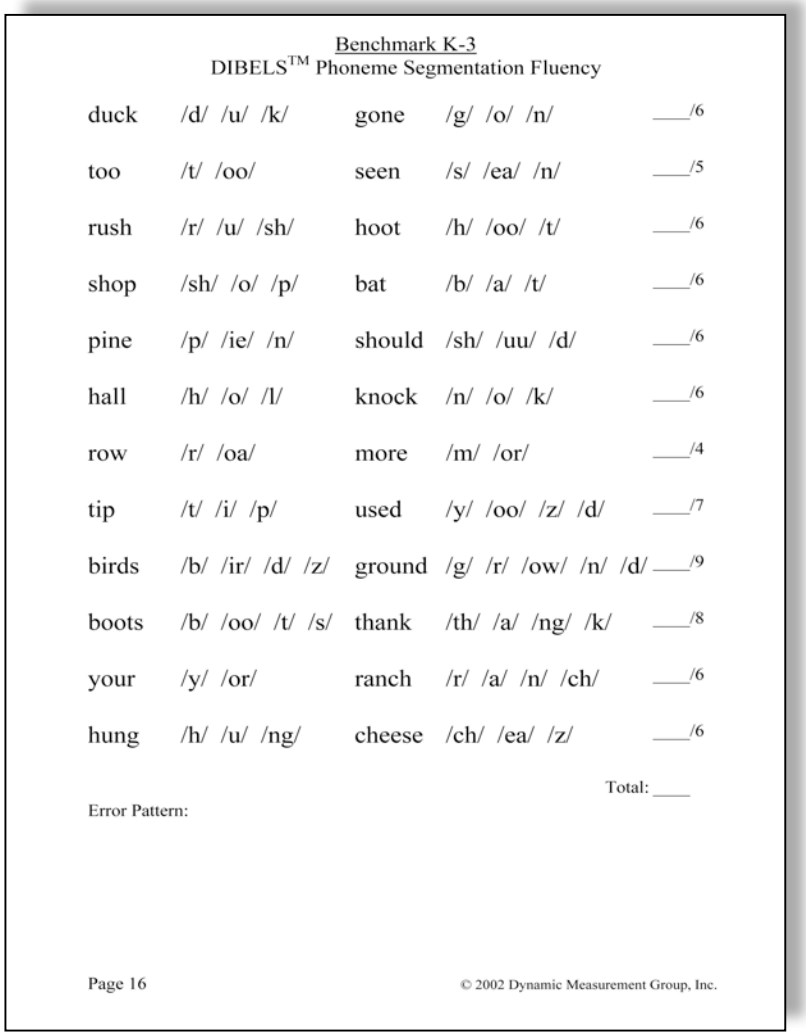
DIBELS® Initial Sound Fluency (ISF)



This is mouse, flowers, pillow, letters (point to each picture while saying its name).

Mouse (point to the mouse) *begins with the sound /m/. Listen: /m/, mouse. Which one begins with the sounds /fl/?*

Phoneme Segmentation Fluency (PSF)



Benchmark K-3

DIBELS™ Phoneme Segmentation Fluency

duck	/d/ /u/ /k/	gone	/g/ /o/ /n/	___/6
too	/t/ /oo/	seen	/s/ /ea/ /n/	___/5
rush	/r/ /u/ /sh/	hoot	/h/ /oo/ /t/	___/6
shop	/sh/ /o/ /p/	bat	/b/ /a/ /t/	___/6
pine	/p/ /ie/ /n/	should	/sh/ /uu/ /d/	___/6
hall	/h/ /o/ /l/	knock	/n/ /o/ /k/	___/6
row	/r/ /oa/	more	/m/ /or/	___/4
tip	/t/ /i/ /p/	used	/y/ /oo/ /z/ /d/	___/7
birds	/b/ /ir/ /d/ /z/	ground	/g/ /r/ /ow/ /n/ /d/	___/9
boots	/b/ /oo/ /t/ /s/	thank	/th/ /a/ /ng/ /k/	___/8
your	/y/ /or/	ranch	/r/ /a/ /n/ /ch/	___/6
hung	/h/ /u/ /ng/	cheese	/ch/ /ea/ /z/	___/6

Total: ___

Error Pattern:

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I am going to say a word. After I say it, you tell me all the sounds in the word. So, if I say, "Sam," you would say /s/ /a/ /m/. Let's try one. (one second pause) *Tell me the sounds in "mop."*

DIBELS® Nonsense Word Fluency (NWF)

kik	woj	sig	faj	yis
kaj	fek	av	zin	zez
lan	nul	zem	og	nom
yuf	pos	vok	viv	feg
bub	dij	sij	vus	tos
wuv	nij	pik	nok	mot
nif	vec	al	boj	nen
suv	yig	dit	tum	joj
yaj	zof	um	vim	vel
tig	mak	sog	wot	sav

Here are some more make-believe words (point to the page). *Start here* (point to the first word) *and go across the page* (point across the page). *When I say, "begin," read the words the best you can. Point to each letter and tell me the sound or read the whole word. Read the words the best you can. Put your finger on the first word. Ready, begin.*

DIBELS® Oral Reading Fluency (DORF)

The Ant Hill

Dad and I took a hike in the woods. We walked for a long time and stopped to take a rest. We sat down on a log and had a drink of water. A big hill was nearby.

Dad said, "Look, there's an ant hill."

I walked up to the hill and took a closer peek. At first it looked just like a dirt hill. Then I noticed a few ants running around. I looked closer. I saw little ants carrying pieces of mushroom. The pieces were almost as big as the ants.

"What are they doing, Dad?" I asked.

"They're taking food inside the hill. They probably have thousands of ants to feed inside." Dad said, "Watch this." He gently poked a twig into a small hole on the hill. All of a sudden, many ants came out.

"The ants are on alert, trying to protect their hill," he said.

I bent down to look closer. Some ants climbed on my shoes.

"We better leave now," Dad said. Dad and I walked and walked until we were home. Now whenever I see one ant, I stop and think about the city of ants they might be feeding and protecting.

Please read this (point) *out loud. If you get stuck, I will tell you the word so you can keep reading. When I say "stop" I may ask you to tell me about what you read, so do your best reading. Start here* (point to first word of the passage). *Begin.*

DIBELS® Retell Fluency (RTF)

Please tell me all about what you just read.
Try to tell me everything you can. Begin.

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71
72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94

DIBELS® Word Use Fluency (WUF)

Listen to me use this word: "green." (pause). *"The grass is green." Here is another word: "jump."* (pause). *"I like to jump rope." Your turn to use a word in a sentence.* (pause) *Rabbit.*

Probe 1

pool	**1 2 3 4 5 6 7 8 9 10 11 12 13 14 16 17 18 19 20 21 22**	_____C I
tried	**1 2 3 4 5 6 7 8 9 10 11 12 13 14 16 17 18 19 20 21 22**	_____C I
worry	**1 2 3 4 5 6 7 8 9 10 11 12 13 14 16 17 18 19 20 21 22**	_____C I
happened	**1 2 3 4 5 6 7 8 9 10 11 12 13 14 16 17 18 19 20 21 22**	_____C I

Data on DIBELS®

Measure	Alternate Form Reliability	Criterion -Related Validity
Phoneme Segmentation Fluency	1 probe: .88 3 probes [a]: .96	.73 - .91
Initial Sound Fluency	1 probe: .65 5 probes: .90	.44 - .60
Nonsense Word Fluency	1 probe: .92 3 probes: .98	.84
Word Use Fluency	1 probe: .65 5 probes: .90	.42 - .71
Oral Reading Fluency	1 probe: .90	.70-.80
Retell Fluency	.68 - .72	.73-.81
Letter Naming Fluency	1 probe: .93 3 probes: .98	.72 - .98

What is Response to Intervention?

1. An alternative approach to determine eligibility for learning disability under IDEA 2004:
   - Response to intervention (RTI) functions as an alternative for learning disability (LD) evaluations within the general evaluation requirements of IDEA 2004 (20 U.S.C 1414 (B)(6)(A)) .
   - IDEA 2004 adds a new concept in eligibility that prohibits children from being found eligible for special education if they have not received instruction in reading that includes the five essential components of reading instruction identified by the Reading First Program. RTI is included under this general umbrella.

What is Response to Intervention?

2. An approach for maximizing student learning/progress through sensitive measurement of effects of instruction:
   - Diagnostic teaching
   - Precision teaching
   - Problem-solving model
   - Outcomes-driven model

Description of RTI

- Students are provided with generally effective instruction by classroom teacher.
- Progress of students receiving general education is monitored.
- Students who are not making adequate progress are identified early.
- Students who need more than general education instruction receive something else or something more, either from their teacher or someone else.
- The progress of students receiving something else/more is monitored and instruction is adjusted.

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1. Eligibility approach: Those who display serious, stubborn, lack of adequate progress qualify for special education services.

2. Maximize learning approach: Those who continue to make less than adequate progress get something else/more until they respond.

Underlying Assumptions of RTI

- 1. Eligibility Model
  - Disabilities are due to within child factors and are intractable.
  - There are children who are “non-responders” or “treatment resistors”.
  - Starting point of the model is when the student is referred for special education evaluation.
  - Goal/end point of the model is a special education eligibility decision.
- 2. Maximize Learning Model
  - Most children can learn when provided with effective instruction.
  - There are children for whom we have not yet found an effective intervention.
  - Starting point of the model is before there are serious learning problems.
  - Goal is to find the “match,” i.e., the instructional approach or strategies that are effective for the individual student.

Our View on RTI:

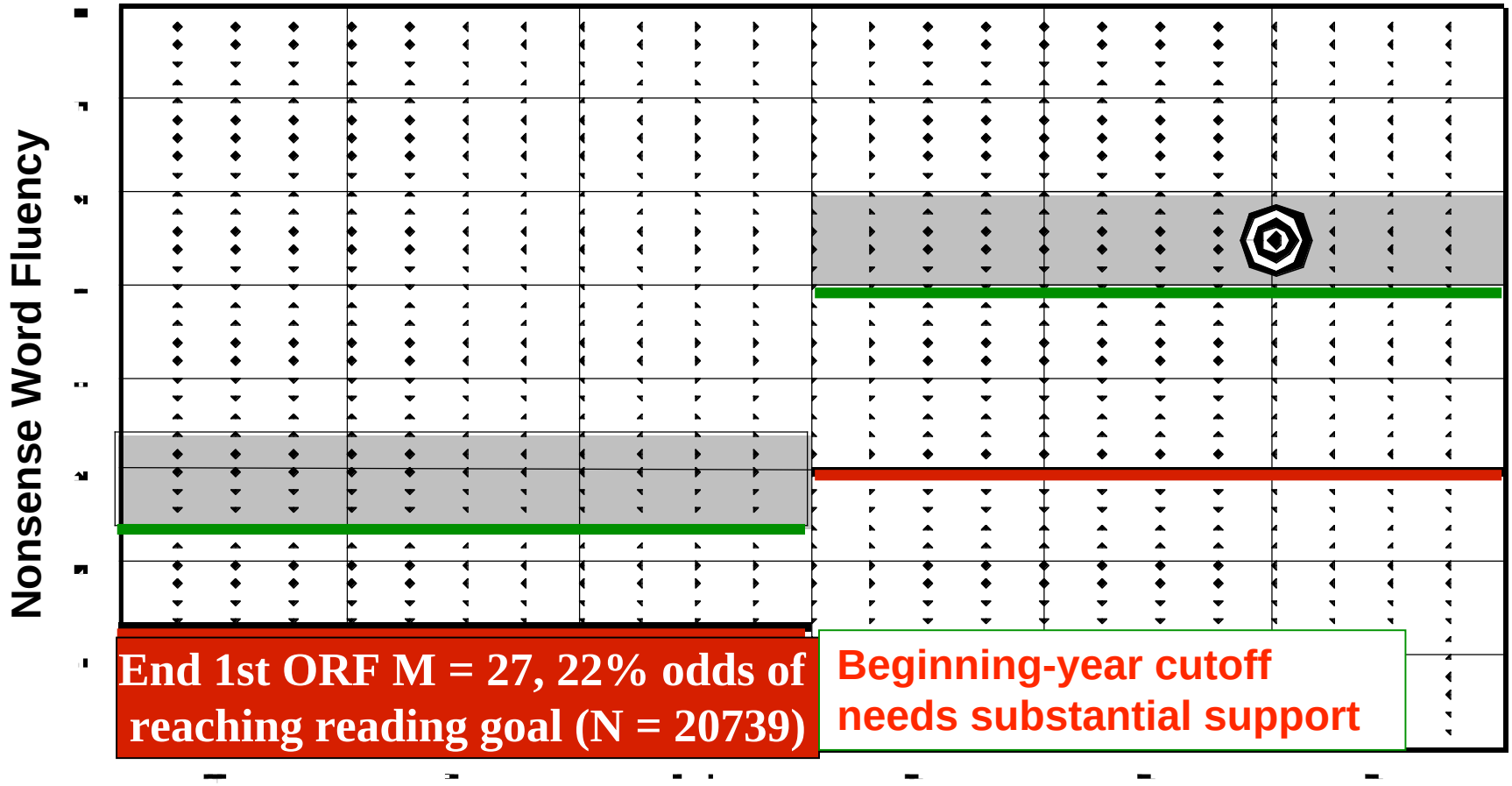
- Referral for special education eligibility evaluation because of academic difficulty is not an appropriate starting point.
- Eligibility based on lack of adequate progress is NOT a defensible endpoint.
- Response to intervention (RTI) in a prevention-oriented system of generally effective instruction (e.g., a three-tier model) IS a defensible means to maximize student learning and progress.

Potential of Utility RTI

- Requires measures that accurately identify risk early, that provide meaningful and important goals, and that evaluate adequate progress toward those goals.
- Used within a *prevention-oriented* system of *progress monitoring* and *evaluating system-wide effectiveness: Outcomes Driven Model*
- Used for all students to maximize learning.

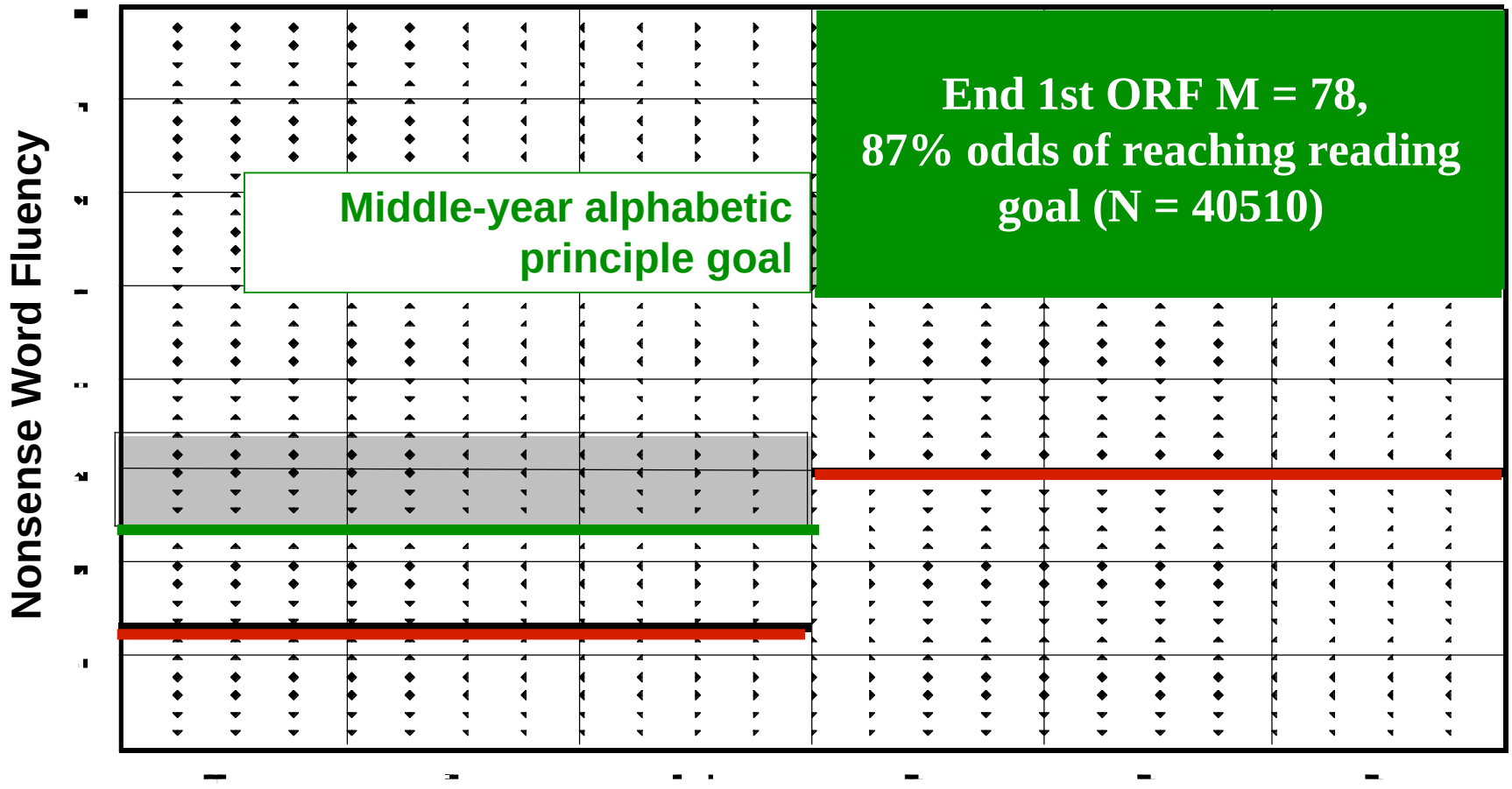
Accurately Identify Need for Support Early

- Students with low skills are likely to need substantial support to achieve adequate first grade reading outcomes.



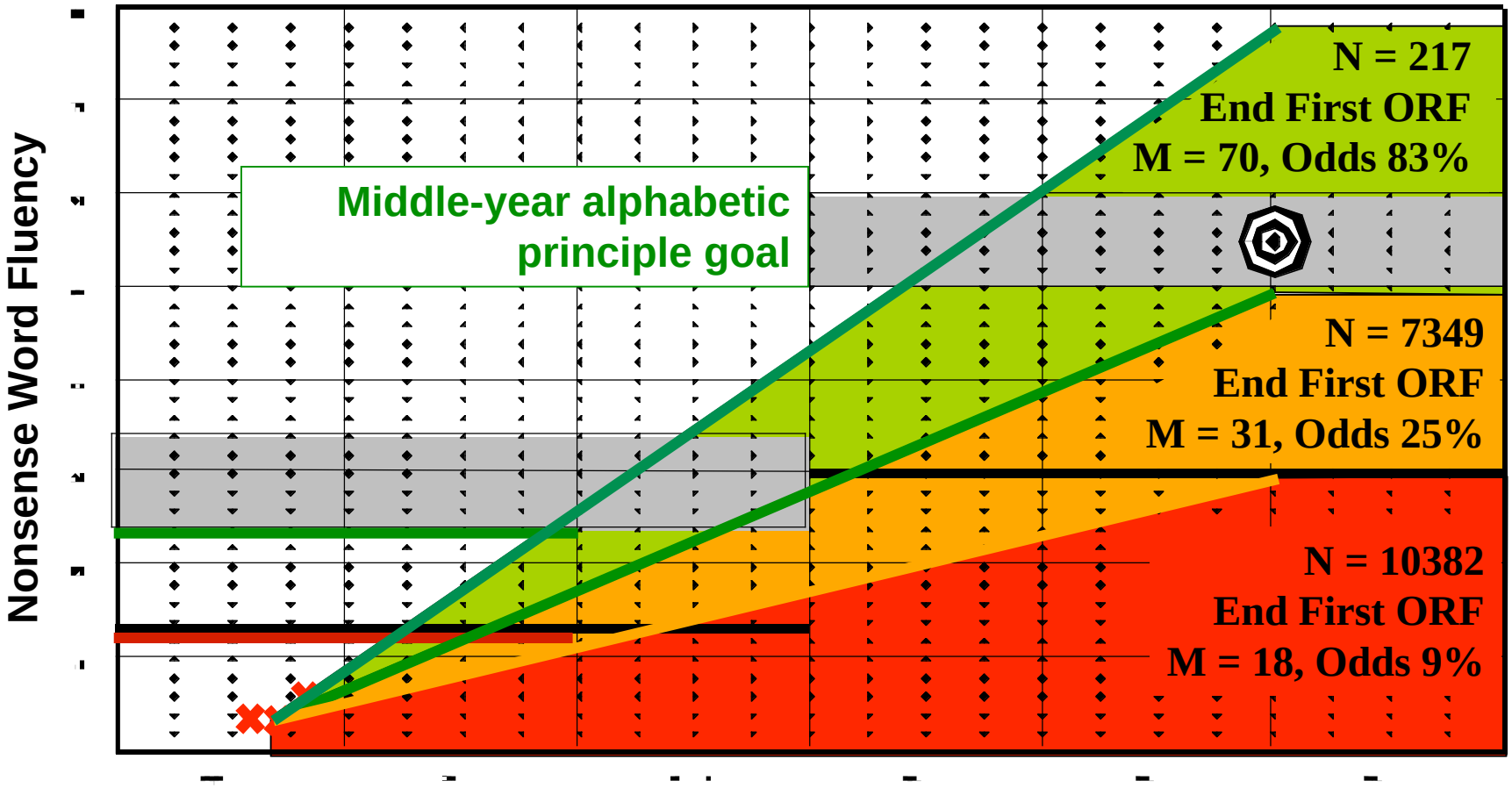
Provide Meaningful and Important Goals

- Most students reaching alphabetic principle goal in mid first grade achieve adequate first grade reading outcomes.



Evaluate Adequate Progress toward Goals

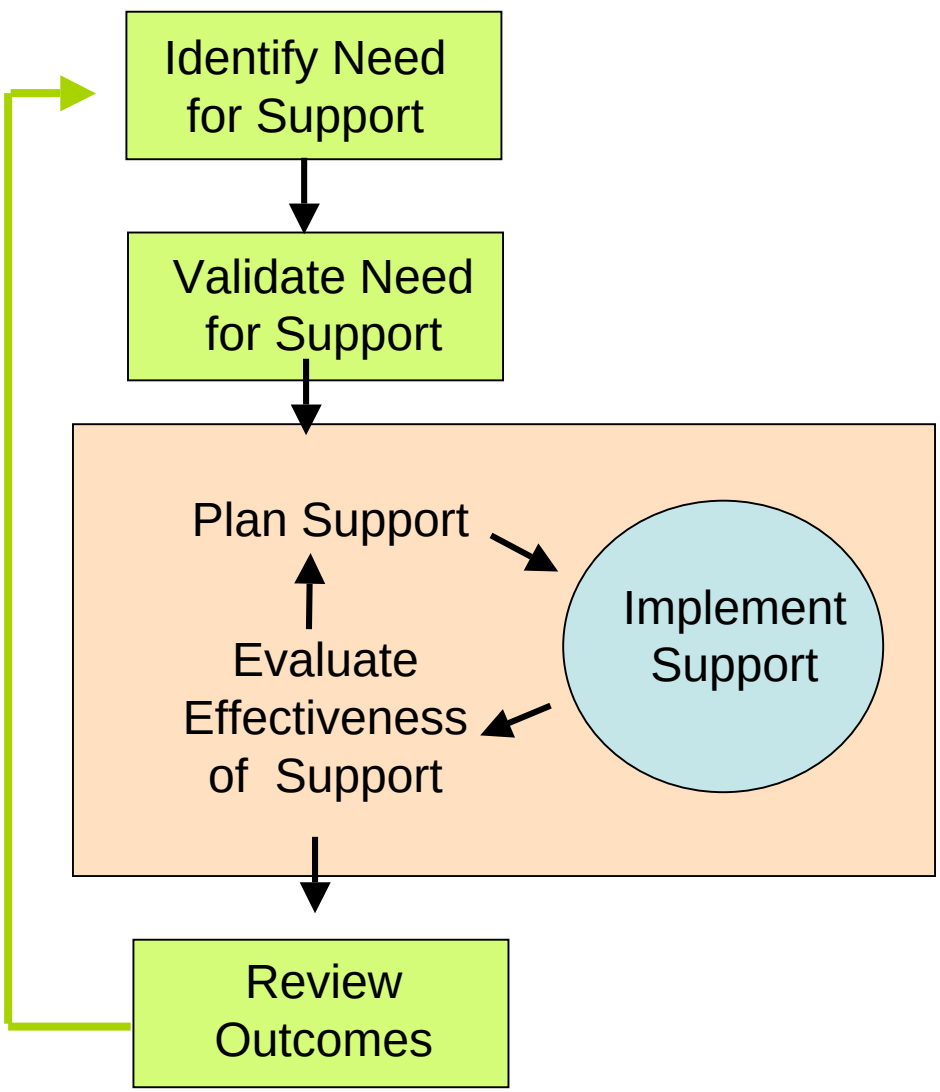
- Adequate progress toward instructional goals has a meaningful impact on first grade reading outcomes and the odds of reaching the end of first grade reading goal.



Outcomes Driven Model for RTI Decisions

ODM Step	Decisions/Questions	Data
1. Identify Need	Are there students who may need support? How many? Which students?	Screening data (DIBELS Benchmark data)
2. Validate Need	Are we confident that the identified students need support?	Diagnostic assessment data and additional information as needed
3. Plan and Implement Support	What level of support for which students? How to group students? What goals, specific skills, curriculum/program, instructional strategies?	Diagnostic assessment data and additional information as needed
4. Evaluate and Modify Support	Is the support effective for individual students?	Progress Monitoring data (DIBELS progress monitoring data)
5. Evaluate Outcomes	As a school/district: How effective is our core (benchmark) support? How effective is our supplemental (strategic) support? How effective is our intervention (intensive) support?	Outcome Assessment information (DIBELS Benchmark data)

Outcomes-Driven Model



Screening (Benchmark Assessment)

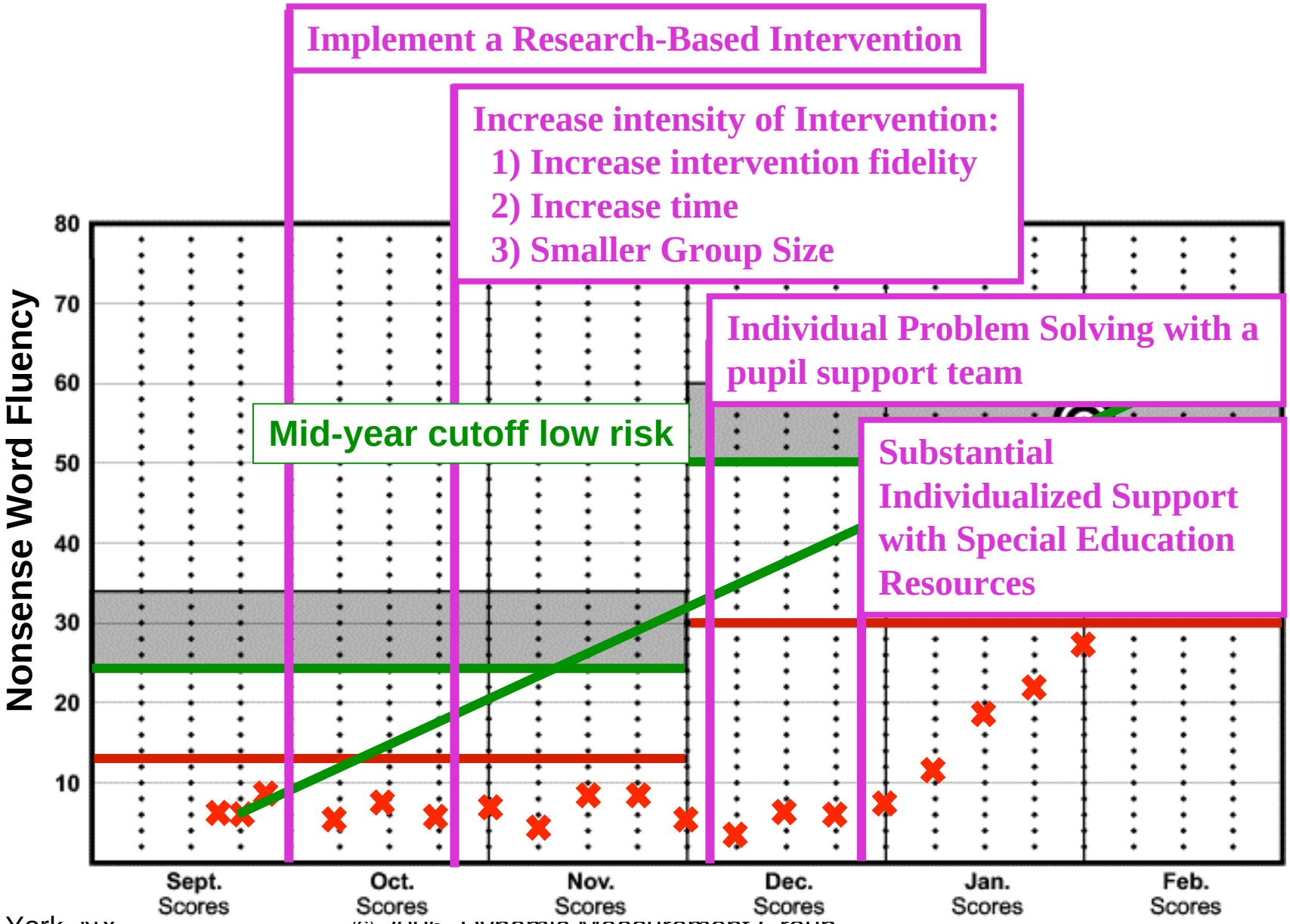
Additional information as needed

Assess strengths/needs

Progress monitoring

Outcome Assessment (Benchmark Assessment)

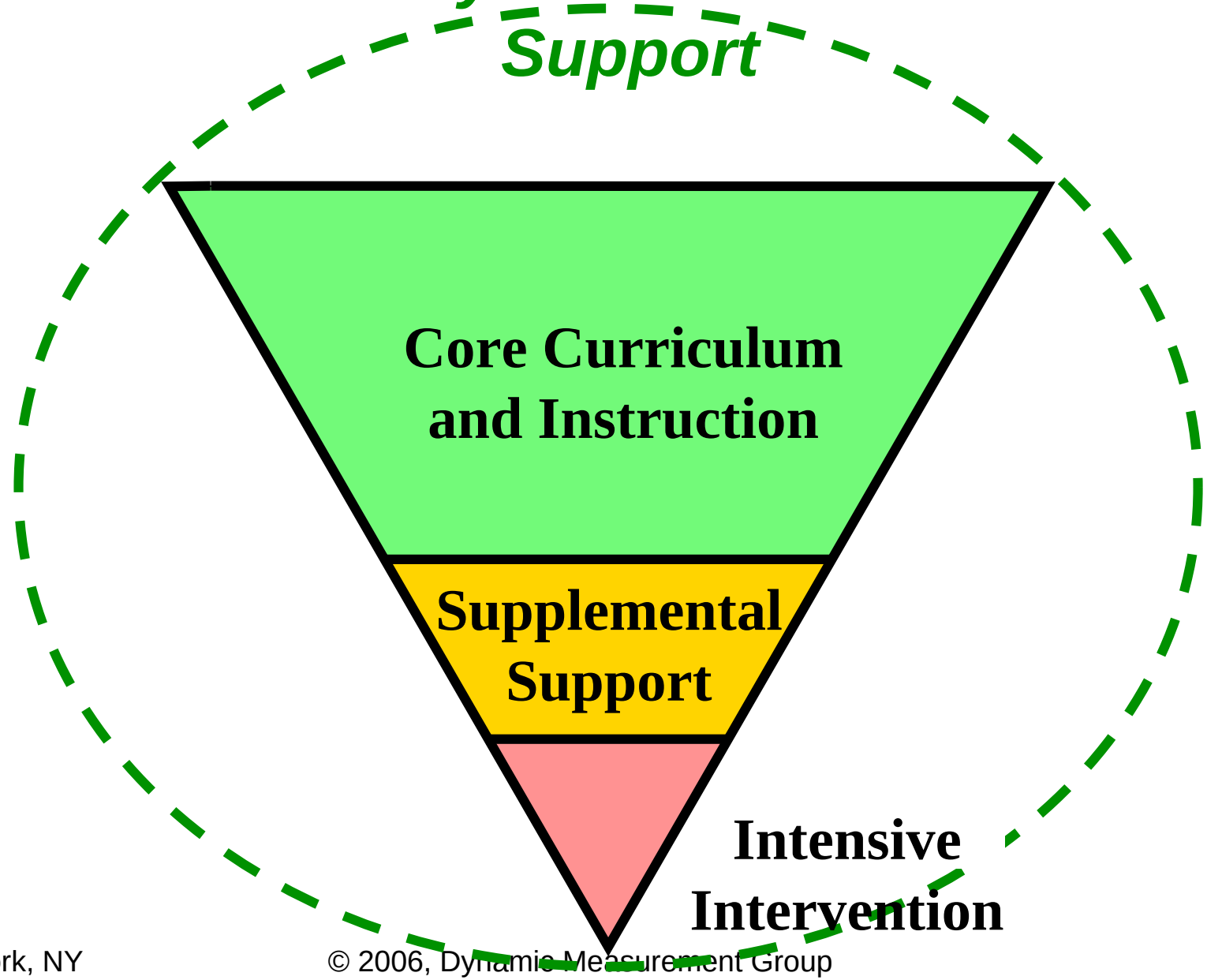
Outcomes Driven Model and RTI



RTI or PORTEI?

- RTI logic requires that the intervention is effective – otherwise it indicates a *teaching problem* rather than a *learning problem*.
- Requires expertise in instruction and intervention as well as in assessment.
- We need to spend as much time assessing the quality of instruction as we spend assessing the response to the instruction.

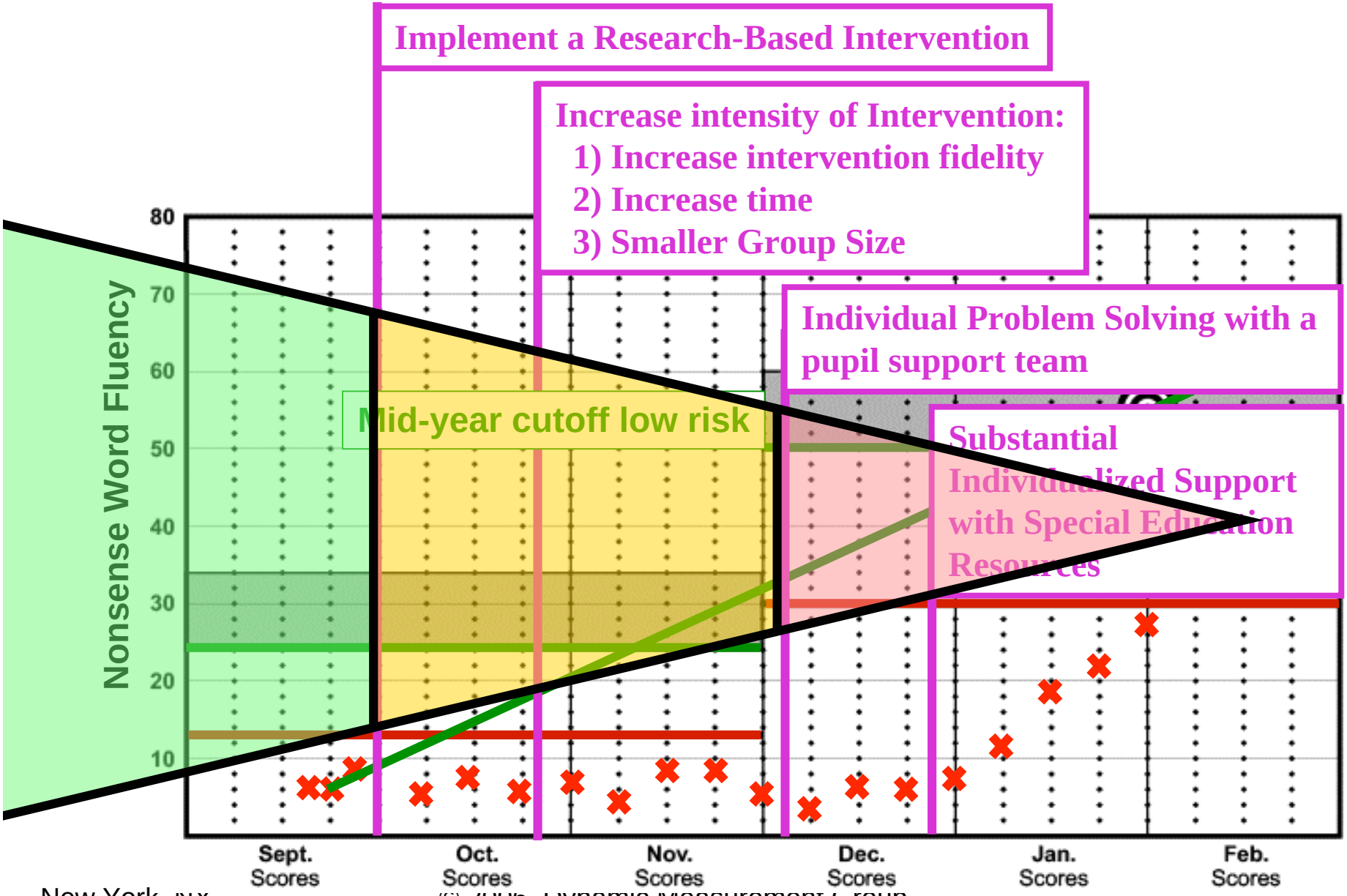
Schoolwide System of Instruction and Support



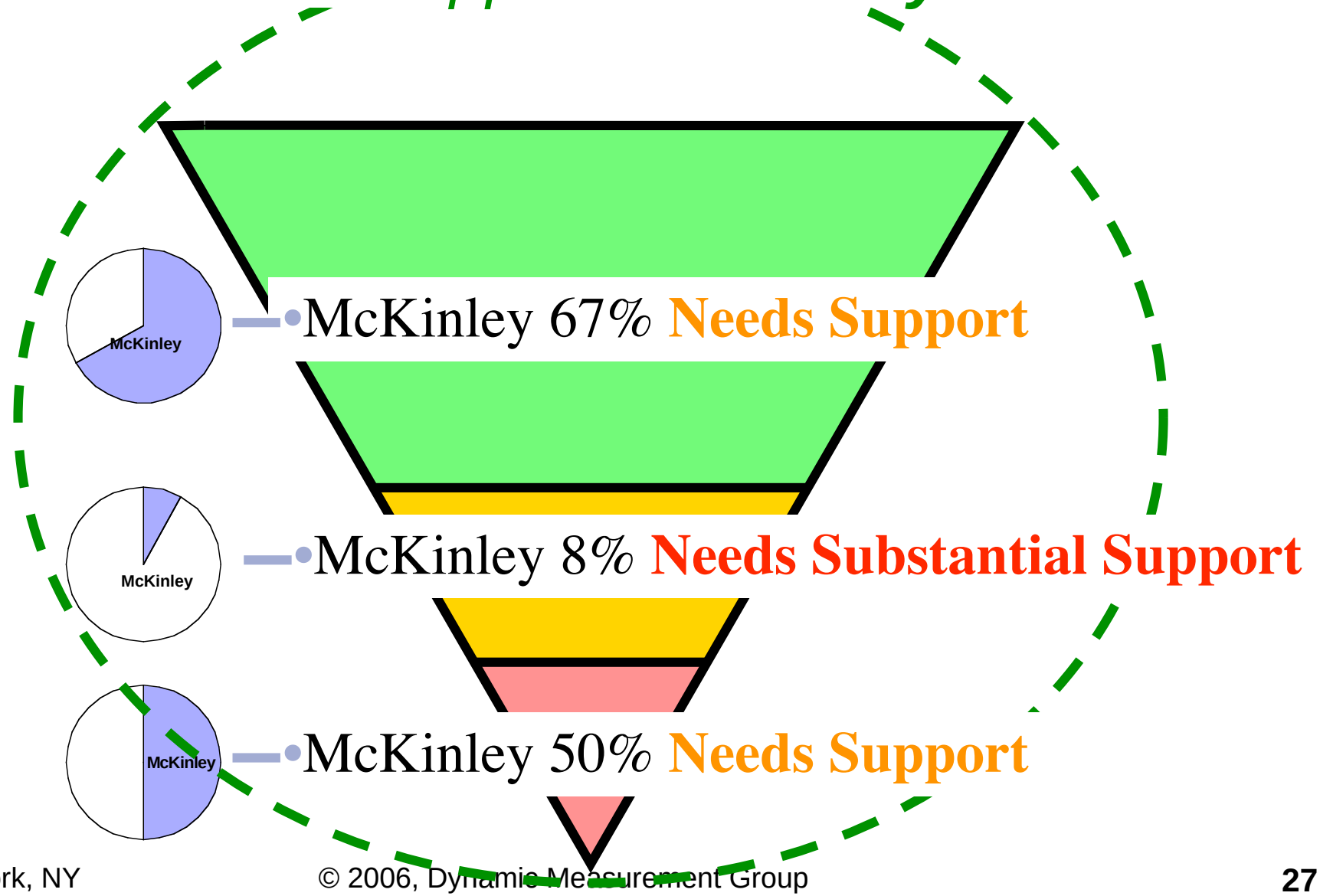
What is Generally Effective Instruction?

- **Benchmark Students**
  - ***Generally Effective core curriculum & instruction*** should:
    - support **95%** of benchmark students to achieve each literacy goal.
- **Strategic Students**
  - ***Generally Effective supplemental support*** should:
    - support **80%** of strategic students to achieve each literacy goal.
- **Intensive Students**
  - ***Generally Effective interventions*** should:
    - support **80%** of intensive students to achieve the goal or achieve emerging or some risk status.

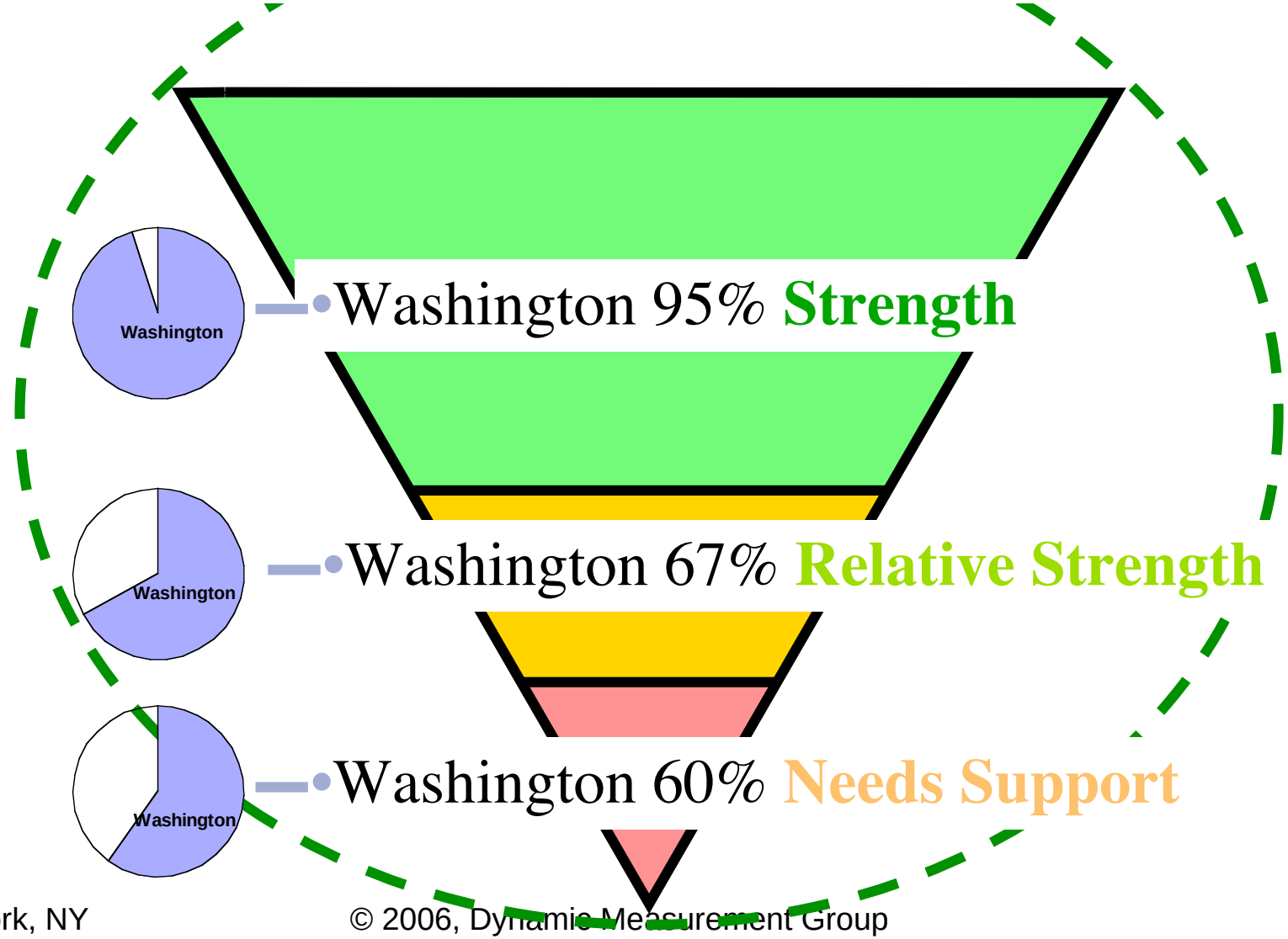
Outcomes Driven Model and RTI



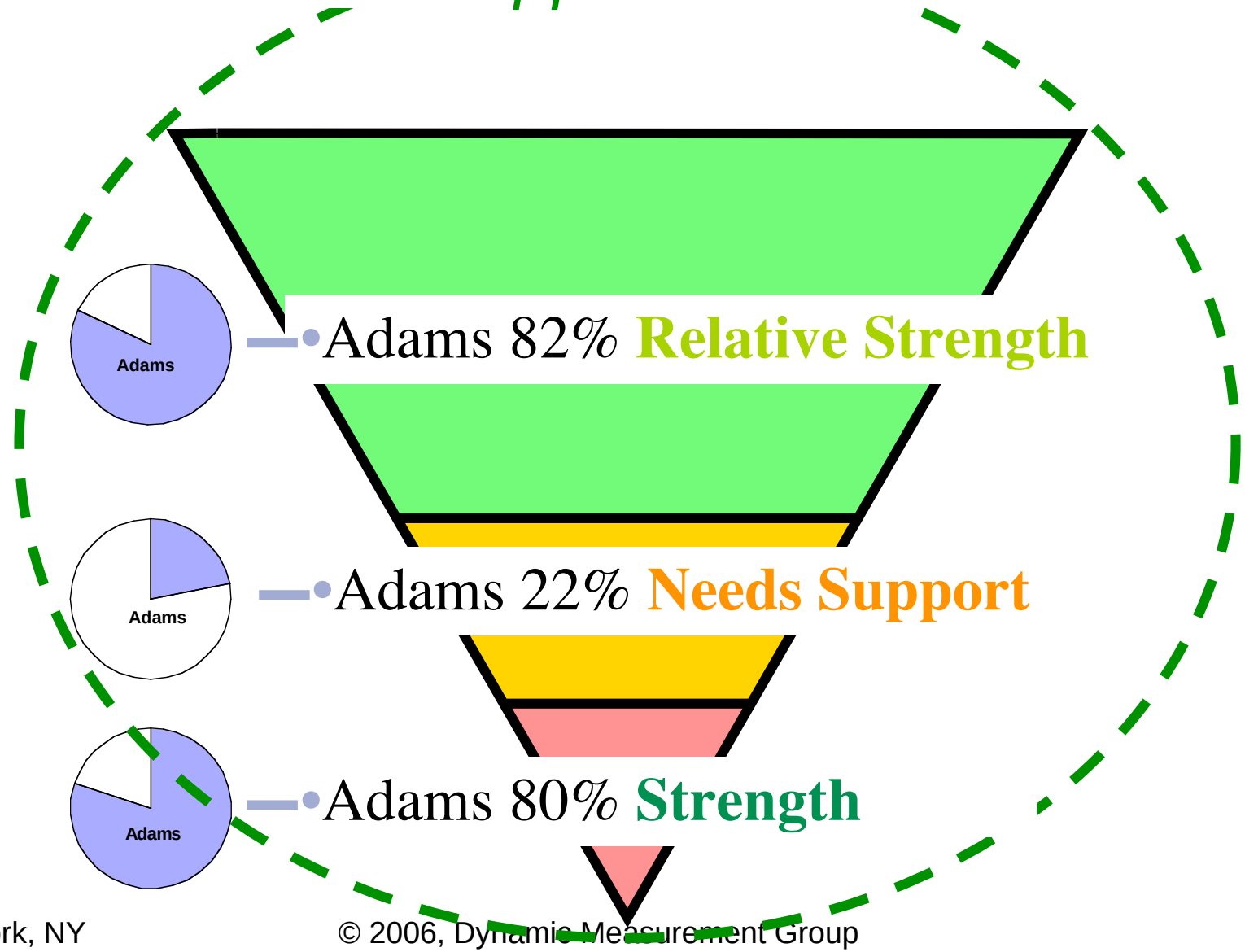
*Schoolwide System of Instruction and Support - **McKinley***



*Schoolwide System of Instruction and Support - **Washington***



*Schoolwide System of Instruction and Support - **Adams***



RTI or PORTEI?

- RTI is most appropriate in a prevention-oriented framework.
- Previous disability models have been reactive and not proactive.
  - Reactive approaches waste time, effort, and resources before investing in interventions for children.
- Prevention oriented RTI is consistent with a continuum of support across general and special education like a *three tier model*.
- RTI should result in rapidly escalating support.
- The goal of RTI is to provide sufficient support so that each student makes adequate progress.

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