A Total-School Approach to MTSS: Including Advanced Learners

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NWEA

Article

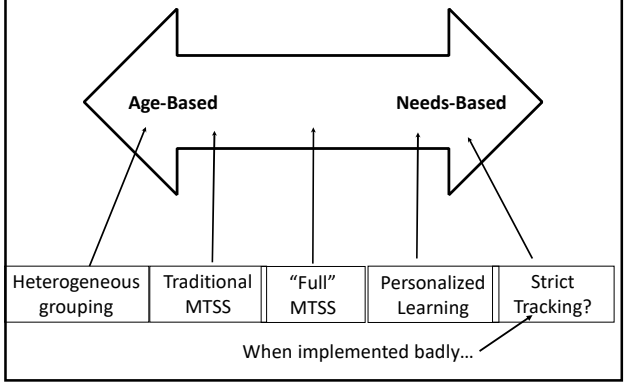
Resources

1

What dictates what students learn in school?

2

Instructional Continuum



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WHAT'S THE PROBLEM?

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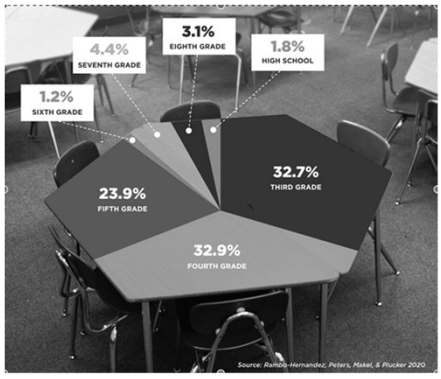
Instructional Range: Math



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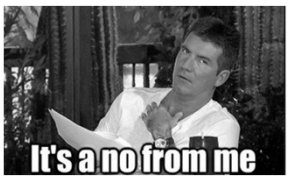
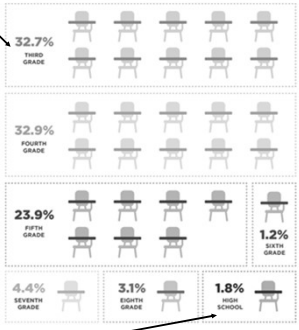
The job of the fifth-grade teacher...

Or lower!





Or higher!

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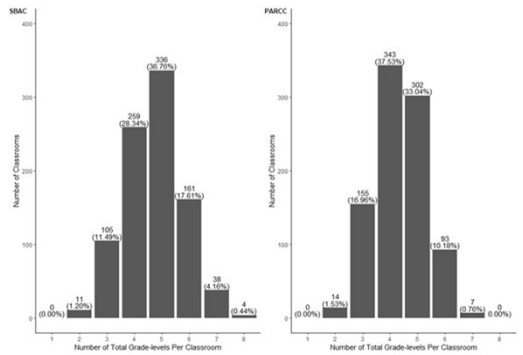
Slide 4

1 I think you do a really great job of setting up the problem in the next slides.
lindsay lee, 1/4/2022

Mathematics Results - Within-Class Diversity



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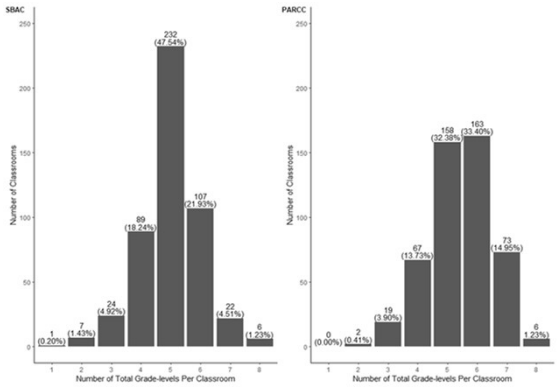
Reading Results - Within-Class Diversity



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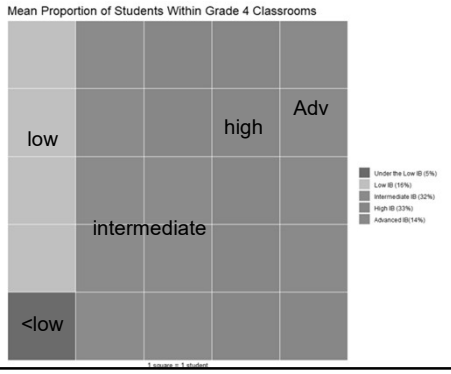
Results: Grade 4 Classroom-level Weighted Descriptive Statistics



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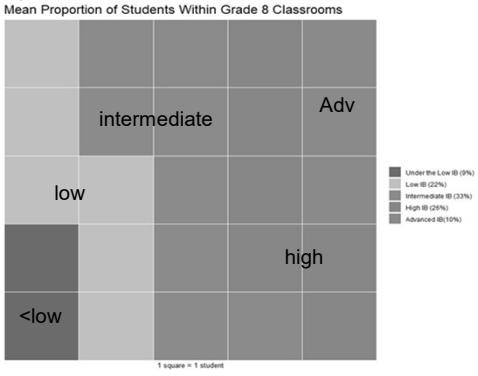
Results: Grade 8 Classroom-level Weighted Descriptive Statistics



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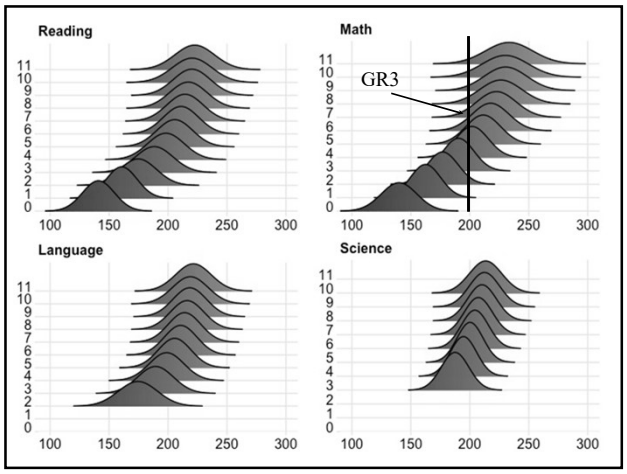

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Engel et al. 2013 Study

- Using Early Childhood Longitudinal data
- Nationally representative data on student math achievement when they entered kindergarten
- 95% of entering students had mastered concepts such as identifying some one-digit numbers, recognizing geometric shapes, 1:1 counting up to ten objects, etc.

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Engel et al. 2012 Study

- Given this level of mastery, how many days per month did teachers report spending on this content?

a. 4 Days
b. 7 Days
c. 13 Days
d. 19 Days

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Engel et al. 2012 Study

- Given this level of mastery, how many days per month did teachers report spending on this content?
- Teachers spent an average of **13 days per month** re-teaching this content
- This was negatively associated with student growth

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Engel et al. 2012 Study

	Fall kindergarten				Teacher reported days/month on content measures	
Student math proficiency levels	Students who have mastered level by fall kindergarten	Proficiency probability scores Mean	Proficiency probability scores *SD*	Content measures	Mean	*SD*
Proficiency level 1	95%	0.94	0.15	Basic counting and shapes	12.70	4.11
Proficiency level 2	62%	0.58	0.34	Patterns and measurement	7.68	4.44
Proficiency level 3	25%	0.23	0.31	Place value and currency	8.61	5.12
Proficiency level 4	7%	0.04	0.13	Addition and subtraction	4.38	4.07

Note. Student n = 11,517; teacher n = 2,176.

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So what happens?

TABLE 7
Regression Coefficients and Standard Errors From Models Predicting Spring Kindergarten Math Achievement With Standardized Teacher-Reported Content Measures by Student Proficiency Level Subgroups

	< Level 1		Level 1		Level 2		Level 3		Level 4+	
Independent variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Basic Counting and Shapes[a]	−.005	.052**	−.032**	−.032**	−.053***	−.042***	−.019	−.034*	−.044	−.039
	(.038)	(.025)	(.014)	(.013)	(.012)	(−.012)	(.020)	(.020)	(.058)	(.071)
Patterns and Measurement[b]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	(.030)	(.026)	(.013)	(.012)	(.012)	(.011)	(.021)	(.021)	(.059)	(.071)
Place Value and Currency[c]	.037	.019	.052***	.044***	.025**	.023*	.049***	.035*	.061	.071
	(.026)	(.024)	(.012)	(.012)	(.012)	(.012)	(.018)	(.018)	(.052)	(.064)
Addition and Subtraction	.007	.011	.013	.014	.040***	.037***	.056***	.059***	.024	.055
	(.024)	(.025)	(.012)	(.010)	(.011)	(.011)	(.019)	(.017)	(.045)	(.048)
Full–day kindergarten	.110**	.150***	.054**	.092***	.058***	.089***	.090**	.100**	.200**	.220*
	(.044)	(.048)	(.022)	(.022)	(.021)	(.023)	(.037)	(.039)	(.090)	(.125)
Fall kindergarten math test score	1.330***	.620***	1.090***	.780***	1.010***	.820***	.880***	.780***	.710***	.610***
	(.112)	(.131)	(.030)	(.035)	(.027)	(.030)	(.033)	(.038)	(.054)	(.056)
Time on math/week		−.027		.025**		.012		.055***		−.028
		(.023)		(.010)		(.010)		(.020)		(.053)
Teacher qualifications		X		X		X		X		X
Student characteristics		X		X		X		X		X
Cognitive skills		X		X		X		X		X
Observations	553	553	3,613	3,613	4,345	4,345	2,175	2,175	494	494
R-squared	.274	.574	.331	.435	.373	.428	.372	.435	.473	.610

The message: Teaching kids what they already know doesn't result in them learning new things!

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Exceptional Children
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The "Blurring" of Special Education in a New Continuum of General Education Placements and Services

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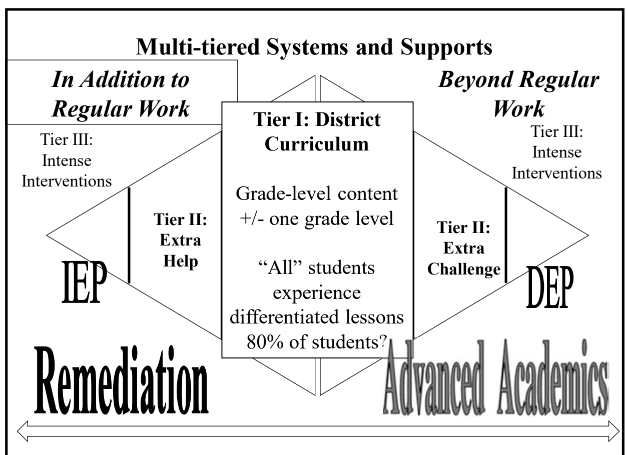

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What does this Look Like?

What is a "full" MTSS model?

- Strengthen Tier I
- Universally screen & progress monitor for students who might need Tier II
- Figure out what Tier II students need
- Progress monitor for students who might need Tier III

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The traditional gifted education approach:

1. Adopt a theoretical definition of giftedness
2. Identify the gifted
   - McBee, Peters, & Waterman (2014)
   - McBee, Peters, & Miller (2016)
   - McBee & Makel, 2019
3. Provide an educational intervention (if there's any money, time, energy, or political will left)

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The **"Full MTSS"** Approach

1. Understand what academic needs are not being met by existing services.

2. Create interventions / identify services to meet unmet needs

3. Identify those students that have a need for and are likely to flourish in the intervention we've created

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Step 1: Needs Assessment

Locate students who have needs not being met by the general curriculum within domains that are served.

- Formative Assessment
- How do we know who is being challenged by the "regular" curriculum?
- This unmet need is why interventions are necessary, not because a child is "gifted"

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Step 1: Needs Assessment

Before the kids arrive in the fall, every grade level reviews the incoming students with one question in mind:

Will this student have his or her needs met through existing services? If not, what would it take to challenge her?

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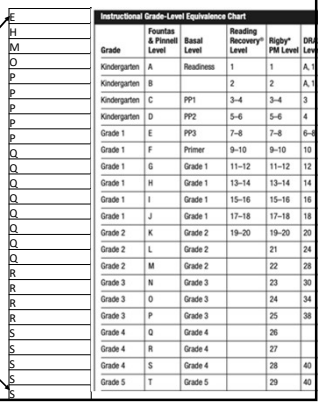
Grade 4 Fountas & Pinnell

F&P Instructional Level

One classroom

Kindergarten

End of grade 4



Instructional Grade-Level Equivalence Chart

Grade	Fountas & Pinnell Level	Basal Level	Reading Recovery® Level	Rigby® PM Level	DRA Level
Kindergarten	A	Readiness	1	1	A, 1
Kindergarten	B		2	2	A, 1
Kindergarten	C	PP1	3–4	3–4	3
Kindergarten	D	PP2	5–6	5–6	4
Grade 1	E	PP3	7–8	7–8	6–8
Grade 1	F	Primer	9–10	9–10	10
Grade 1	G	Grade 1	11–12	11–12	12
Grade 1	H	Grade 1	13–14	13–14	14
Grade 1	I	Grade 1	15–16	15–16	16
Grade 1	J	Grade 1	17–18	17–18	18
Grade 2	K	Grade 2	19–20	19–20	20
Grade 2	L	Grade 2		21	24
Grade 2	M	Grade 2		22	28
Grade 3	N	Grade 3		23	30
Grade 3	O	Grade 3		24	34
Grade 3	P	Grade 3		25	38
Grade 4	Q	Grade 4		26	
Grade 4	R	Grade 4		27	
Grade 4	S	Grade 4		28	40
Grade 5	T	Grade 5		29	40

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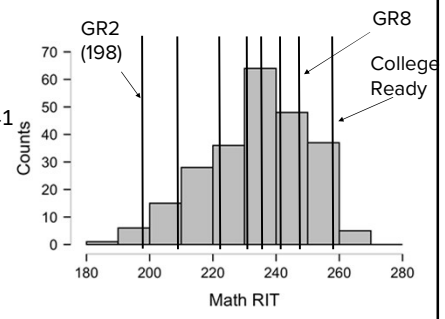
240 7th graders

Average MAP-M score: 234

"Grade level": 241



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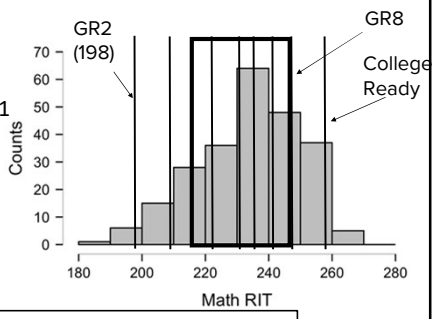
240 7th graders

Average MAP-M score: 234

"Grade level": 241



A "needs assessment" is really about drawing a blue box – which students would be challenged by current offerings?

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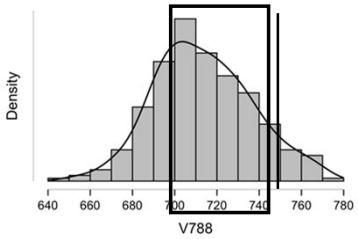
What to do about this…

What factors influence the size / reach of a given teacher's blue box?



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Multi-tiered Systems and Supports

In Addition to Regular Work

Beyond Regular Work

Tier III: Intense Interventions

Tier I: District Curriculum

Grade-level content +/- one grade level

"All" students experience differentiated lessons 80% of students?

Tier II: Extra Help

Tier II: Extra Challenge

Tier III: Intense Interventions

IEP

DEP

Remediation

Advanced Academics

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Step 2: Provide for Unmet Needs

- Domain specificity as the rule!

Design or select services based on what needs are not being met by existing programming

1. There's no such thing as a generic "gifted" or "MTSS" curriculum or service
2. Interventions will look different year to year
3. Services will look different across schools
4. Services will look different depending on a school's population this year

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Step 2: Provide for for Unmet Needs

- Domain specificity as the rule!

The "goodness" or "badness" of a Tier II/III or GT intervention depends solely on whether or not it alleviates an otherwise unmet advanced academic need

….let's play with this rule a bit….

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Alleviate Need?

- You ID students based on high math scores, high reading scores, or high teacher ratings and then provide them with a creative problem solving curriculum
- You ID students based on language arts / reading PSSA scores and then allow them to participate in Lego League

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One other problem…

- Would…
- Could…
- Should….
- If the answer to all is yes, it's not an appropriate intervention and we shouldn't be restricting access (Harry Passow)

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One other problem…

- We cannot restrict a service or intervention to the "gifted" group unless we have clear evidence that:

1. Other students wouldn't want to do it
2. Other students wouldn't benefit from it
3. Other students should do it
4. It's the least intrusive way to provide the service

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Recap

- "Good" MTSS interventions should alleviate otherwise unmet needs
  - In areas served by the school
- Kids at the same grade level, even in the same school, are very diverse in their learning needs
  - Seven grade levels is typical

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Recap

- The goal is to proactively ID needs that might otherwise go unmet and then create places and/or spaces for those needs to be met

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What to do about this…

Cluster group and train for Tier I

Pull-out, push-in, and subject acceleration for Tier II

Specialized classes and full-grade acceleration for Tier III

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How do we chop up Sue?

50% work to expand Tier I (e.g. coaching, clustering, and differentiation)

30% Delivering Tier II interventions

20% Tier III DEP Planning

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Things that Influence Tier I

- Alignment: Similarity between common core curriculum, state of PA content standards, and <u>local curriculum</u>
- Reach: Ability of your general education teachers to differentiate
  - Remember, +/- 80% in Tier I

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Things that Influence Tier I

- Alignment: Similarity between common core curriculum, state of PA content standards, and <u>local curriculum</u>
  - Is your school very "average" in terms of need?
  - Are very few of your students more than a grade level or two above or below where they are in school?
  - Is your curriculum aligned to what students are ready to learn?

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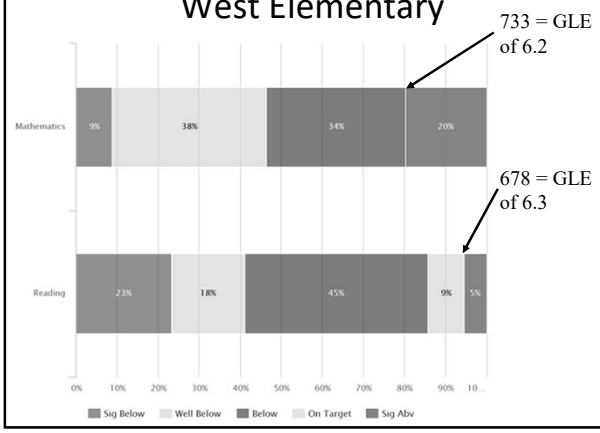
West Elementary



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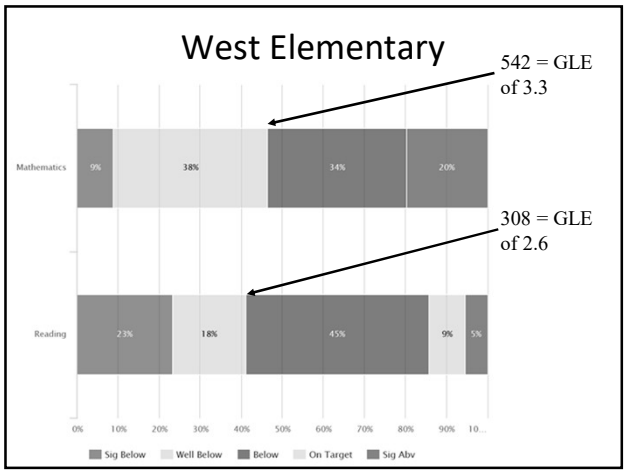
West Elementary



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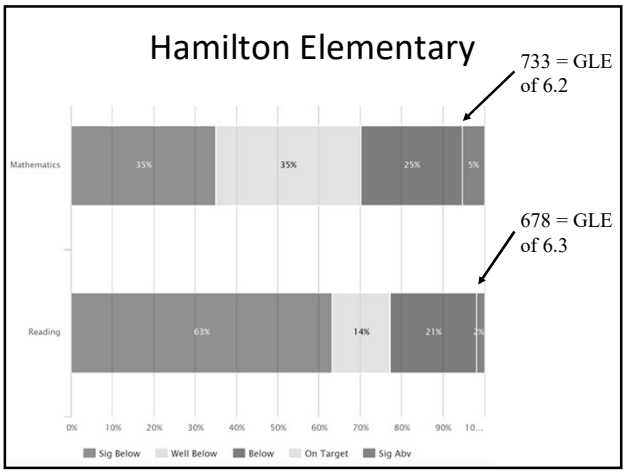
Hamilton Elementary



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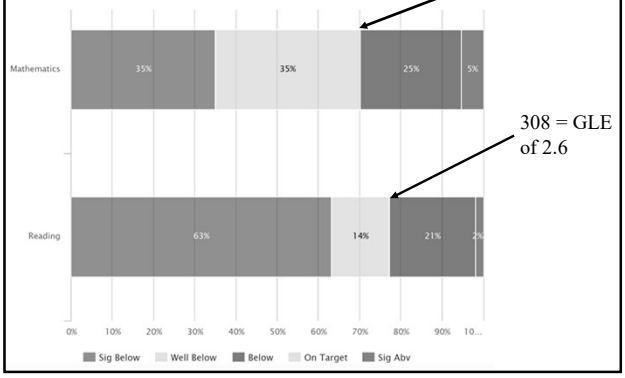
Hamilton Elementary



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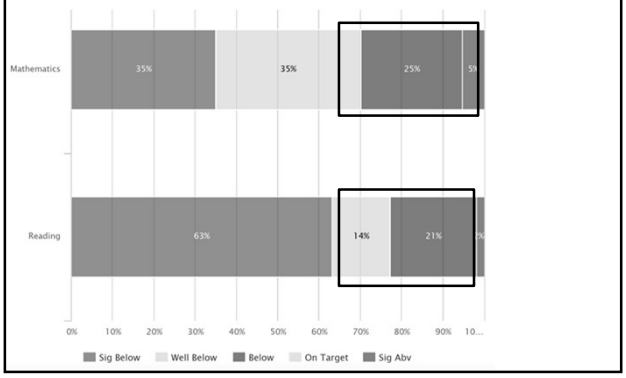
Step 1: Align and Expand Tier I



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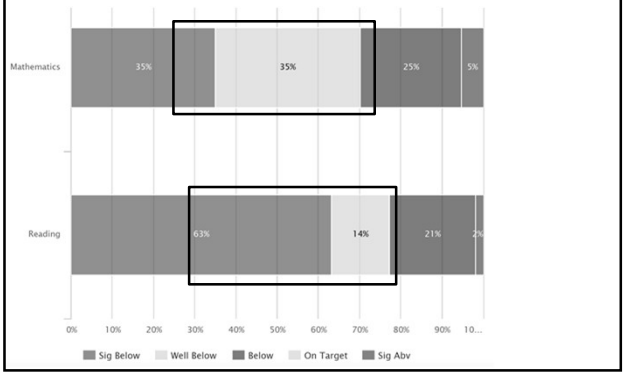
Step 1: Align and Expand Tier I



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Things that Influence Tier I

- Reach: Ability of your general education teachers to differentiate
  - Remember, +/- 80% in Tier I
  - This is the elephant in the room
  - How far can a typical teacher reach? An ideal teacher?
    - Does it vary by content area? Domain? Other factors?
    - Does this mean "giftedness" could come down to which teacher you were assigned?

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This is the ballgame: Tier I

1. How far up and down do you think you can effectively differentiate in your classroom?

a. Up and down half a grade-level in content
b. Up and down a full grade-level in content
c. Up and down two grade-levels in content
d. Up and down three grade-levels in content

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Question:

- What are some actions that you could take that would help expand the <u>reach</u> of one or more teachers?
- What could <u>you</u> do to make the blue box bigger in <u>your</u> school?
- Note this isn't really a question related to "gifted" identification per say…

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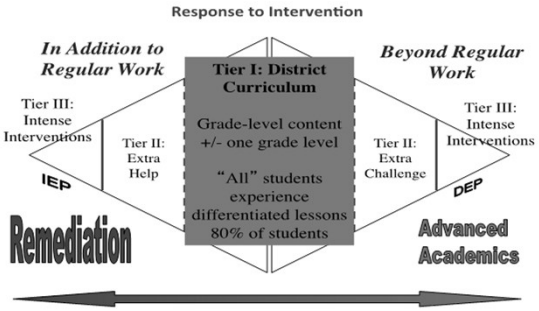
What if only 50% of students learn in Tier I?



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Classroom Configuration

	TOTAL	Classroom 1	Classroom 2	Classroom 3
High Achieving = >225	8	3	3	2
Above Avg = 218 - 225	5	1	1	3
Average = 203 - 217	27	10	10	7
Low-Avg = 202 - 195	15	4	5	6
Low = <195	5	3	1	1
Special Educ.				
TOTAL	60	21	20	19

Heterogeneous classroom grouping – small class sizes

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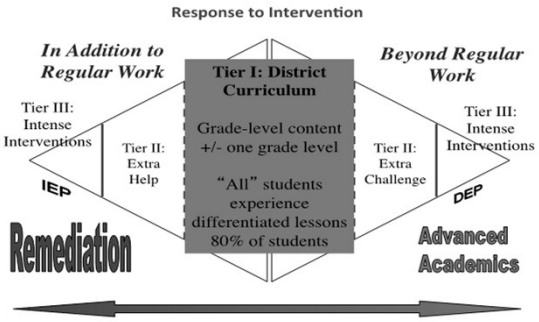
What if teachers could differentiate to reach 99% of students??



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Classroom Configuration

	TOTAL	Classroom 1	Classroom 2	Classroom 3
High Achieving = >225	8	8		
Above Avg = 218 - 225	5		5	0
Average = 203 - 217	27	10	10	7
Low-Avg = 202 - 195	15	3	7	5
Low = <195	5	0	0	5
Special Educ.				
TOTAL	60	21	22	17

Cluster grouped classes

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Why this might help…

- Allows for better targeting of instruction
  - Teachers can specialize based on their talents
- Support teachers have to be in fewer places
- More efficient usage of staff
  - Coaches
  - Reading specialists
  - SPED aids
  - Title I teachers
  - Classroom teacher expertise

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Requirements!

- Must-haves of cluster grouping:
  - Need to be sure each room is still racially, ethnically, socio-economically diverse
    - Not every class will be identical
  - Need to make sure every room has above and below-level kids
  - Need to head off self-fulfilling expectations
  - Need to make sure teachers have the resources necessary to target instruction
  - Need to make sure the content is actually differentiated to meet student needs

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Identification findings

The high achieving students were all with [teacher 5A], and we expected more from the students we had. By removing some of the higher kids it may have influenced the others to work harder. . .and maybe teachers expected more because we didn't have the higher students and treated it as a regular classroom and expected the average students to rise to the occasion.

--Teacher 5C

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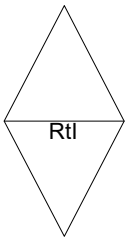
Sample Cluster Grouping Configuration

ID Category	4th grade Clsrm 1	4th grade Clsrm 2	4th grade Clsrm 3	4th grade Total grade
High-Achieving	6	0	0	6
Above-Average	0	7	6	13
Average	10	10	10	30
Low-Average	8	0	6	14
Low	0	8	0	8
Sp. Educ.	1*	0	3**	4
Total	**25**	**25**	**25**	**75**



*note. This student is twice-exceptional.
**note. These students see the same teacher consultant who also helps the classroom teacher.

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Sample Cluster Grouping Configuration

ID Category	3rd grade Clsrm 1	3rd grade Clsrm 2	3rd grade Clsrm 3	3rd grade Clsrm 4	3rd grade Clsrm 5	3rd grade Total grade
High-Achieving	10	10	0	0	0	20
Above-Average	0	0	7	7	7	21
Average	0	8	8	8	0	24
Low-Average	16	0	0	9	0	24
Low	0	6	10	0	10	26
Sp. Educ.	0	2*	0	2	4**	10
Total	**26**	**26**	**26**	**26**	**21**	**125**

*note. These students are Learning Disabled *and* Gifted.
**note. These students are LD and see the same teacher consultant who spends 4 half days per week working in this classroom, the teacher consultant will work in the classroom with the teacher. Her class size has been reduced.

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How Groups are Made

- Placements for next year are made based on test scores (STAR, MAP, Forward, CogAT) or teacher recommendation – whichever results in a higher placement.
  - Tests don't get to hold kids back
  - Teachers can advocate for their students, but they can't hold students back
  - Cluster placements are re-done each year – NO permanent tracking

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ID, Placement, Classroom Configuration

- Class lists / clusters prepared--based on data
- Changes made during placement conference with teachers
- Parent requests, behavior issues, separation issues, and teacher fit issues are addressed
- <u>The goal is to have three or four of the cluster groups represented in each classroom in order to narrow the range of readiness.</u>

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Definitions of ID Categories

1. *High Achieving* students are great at both math and reading.
2. *Above Average Achieving* students are good at math and reading or are great at either math or reading.
3. *Average Achieving* students achieve on grade level; they neither struggle nor do they excel.
4. *Low Average Achieving* students struggle slightly with reading and math, or they struggle with either reading or math.
5. *Low Achieving* students find school difficult, they struggle in all academic areas and are at risk of failure.

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"Grouping" Research

- Within-class grouping ES = .19 to .30
- Cross Grade Grouping: ES = .26
- Grouping "gifted" students: ES = .37

- Effects did not vary for low, average, or high achieving students

Steenbergen-Hu et al. 2016

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Student Achievement Increases

Maybe CG had a lot to do with it. The CG may give the lower achieving students more self-confidence, because I think they become more involved in class when the high achieving kids are removed…you know those high kids are competitive and tend to dominate class sometimes.

--Teacher 4C

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Student Achievement Increases

…when you pull those really high kids out--those who always have their hands up first and jump in with the answers--when you get rid of those students by putting them together in the cluster classroom--the other kids have a chance to shine. They take risks more often, and see themselves as leaders of the group. They are no longer frightened to offer answers.

--Teacher 3E

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Grouping and Student Needs

By using achievement grouping we are able to challenge the high achievers and meet the needs of the low achievers without having either feel like they've been singled out. We are able to adjust our curriculum and instruction to meet the individual needs of the students at their levels. Cluster grouping helps us do this.

--Teacher 3C

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So what do "gifted" tiers look like?

- Tier I – not a gifted or a remediation tier
  - 80% of all students (both ends of diamond)
- This is the general classroom curriculum
- Whatever is "grade-level" or average at your school +/- whomever a teacher can reach / challenge with differentiation
  - This will vary by school, by year, and by teacher

- **Some degree of whole-school cluster grouping seems lime a must for RtI / Tier I to work

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Cluster Grouping Resources

- FREE
- http://www.geri.education.purdue.edu/tscg/
- Click on "resources" and "documents"

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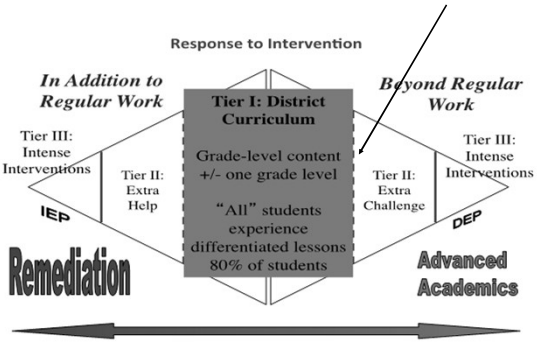
So how do we define this line?



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Definition of Tier II

- Kids who have needs that cannot be met in the Tier I / regular education classroom
- But for whom staying in the "grade-level" classroom makes the most sense
  - When partnered with some additional extension or compacting
- Think of it as grade-level+

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Tier II – Advanced Side of Diamond

- Pull-Out Programs
- Push-in by GT resource teachers
- RtI Intervention Periods
- Subject-specific acceleration
- High Achieving / gifted cluster (in cluster grouping)
- Independent work / projects
- Curriculum compacting

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Luxemburg-Casco School District

Every year, the 2000-student Luxemburg-Casco School District, located just east of Green Bay, seeks out students who might have already mastered that year's math content and be ready for more. They look at standardized test data they have for all students to see who might be ready, and those who are the highest performers in their grade get further math-specific screening, including the end-of-year math test for the grade they are in as well as next year's grade. For example, a first-grade student would take the end-of-year test for both first- and second-grade math. Students who perform well remain in first grade, but also receive individualized instruction to allow them to cover first- and second-grade math standards in a single academic year.

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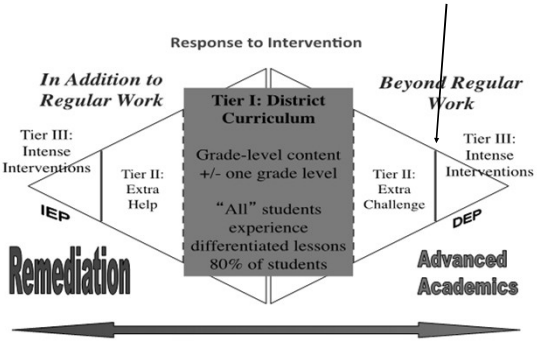
So how do we define this line?



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Definition of Tier III

- A child whose needs are so misaligned with what is taught in Tier I that it is not the most appropriate learning environment
- A kid so out of whack that she needs an individualized learning plan
  - Part time HS in grades 11 and, part-time early college
  - Early entrance to kindergarten

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Tier III – Advanced Side of Diamond

- Full-grade acceleration
  - Early entrance to college or kindergarten
- Drastic grade acceleration
- Replacement / online courses
- Independent study course / unit replacement
- Differentiated Education Plan (DEP)

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High-Performing Example

- Imagine a high-SES, low-minority school in the suburbs or near a major university.
- Majority of students had private pre-k, go to summer camps, and have parents who are heavily involved
- The average math achievement for this school (local norm) is at the 90th percentile of the national norm
- E.g., kids are taking Algebra in 7th grade
- 95% proficient or advanced in math

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Low-performing example

- Imagine a low-SES, highly diverse school in the country or in an urban area
- Some students had Head Start, some had half-day kindergarten, many have parents who are working >1 job and/or are single parents
- The average math achievement for this school (local norm) is at the 40th percentile of the national norm
- E.g., students are lucky if they complete geometry by graduation (52% proficient +)

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Comparison

- Which school should have more students in:
- Tier I?
- Tier II?
- Tier III?
- "Gifted" services?

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When considering tier, level, or intervention….

- Consider the risk of an incorrect placement
- The kid who needs drastic grade acceleration but doesn't get it (false negative)
- The kid who does not need the Creative Problem Solving program, but is placed in it by accident (false positive)
- The kid who is placed in an AP class even though he or she really doesn't need it (is this a false positive?)

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When considering tier, level, or intervention….

- The easier it is to take a placement or intervention back, the more inclusive you can be
- The lessor your level of confidence that only advanced learners would benefit from this intervention, the more inclusive you should be
- Would, could, should….

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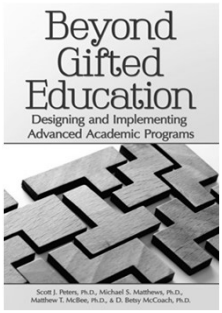
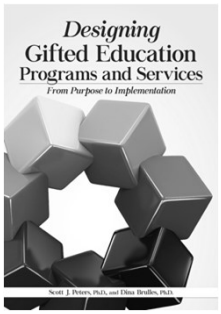
Resources





go.uww.edu/peterss

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Free Resources

- A Response to Intervention Perspective on Gifted Education
- An Advanced Academic Approach to Curriculum Building
- Advanced Academics: A Model for Gifted Education Without Gifted Students
- A Call to Reframe Gifted Education as Maximizing Learning

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