

# The Impact of Coaching on Teacher and Student Learning in Literacy Collaborative

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# This Morning's Talk, part 1

- Focus on *literacy* coaching
- Not an expert on coaching per se
- Much more research supporting literacy coaching's effects on *students*
  - Marsh et al., 2008, *RAND.org*
  - Sailors & Price, 2010, *Elementary School Journal*
  - Bean et al., 2010, *Elementary School Journal*
  - Matsumura et al., 2010, *Elementary School Journal*
  - Carlise & Berebitsky, in press, *Reading and Writing*

# Key Features of Literacy Collaborative

<http://literacycollaborative.org/>

- Comprehensive school reform program designed to improve elementary children's reading, writing, and language skills primarily through school-based coaching
- Used in over 700 elementary schools in 200 districts across 26 states
- Includes core instructional practices, coaches delivering site-based professional development, school literacy leadership team, and intervention mechanisms (e.g., Reading Recovery)

# Key Features of Literacy Collaborative

<http://literacycollaborative.org/>

- Intensive professional development of coaches
  - 230 hours training over 12-15 months (Lesley University and the Ohio State University)
  - Ongoing support from local and national network
- Coach's role and duties
  - Half-time teaching, half-time coaching
  - In-school professional development courses
  - One-on-one coaching sessions

# Key Features of Literacy Collaborative

- Elements of literacy instruction (instructional framework)
  - Interactive read aloud
  - Shared reading
  - Guided reading
  - Interactive writing
  - Writing workshop
  - Word study

# Key Features of Literacy Collaborative

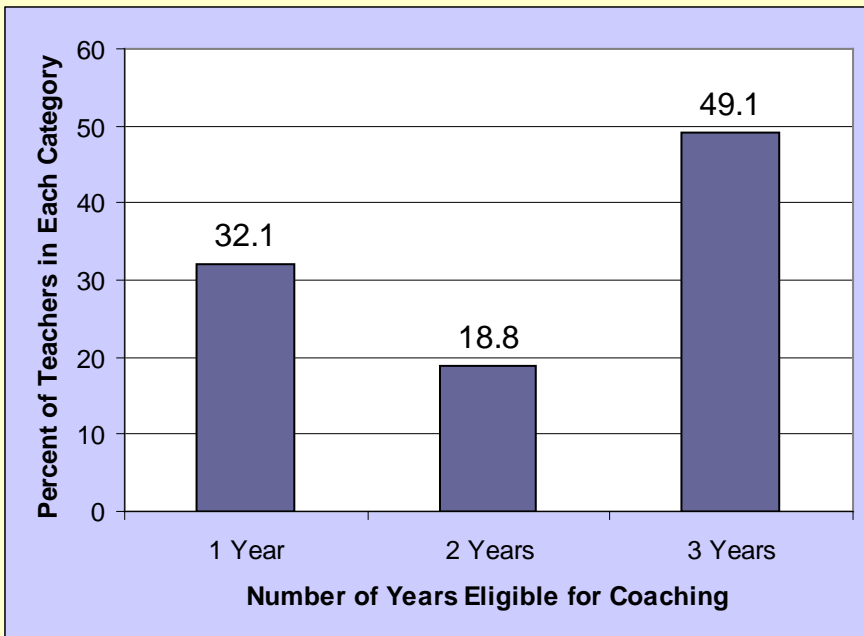
- Anatomy of a coaching session (mix-and-match)
  - Pre-briefing
  - Observation
  - Modeling
  - Debriefing
- Expectation of 2 sessions per month per teacher

# Main Research Questions

- How much coaching took place?
- What predicted how much teachers participated in coaching?
- Does coaching improve teacher practice?
- Does a coaching model improve literacy learning?
- Does coaching experienced directly predict student literacy learning?

# Participants

- 8576 children, 341 teachers, and 17 coaches in 17 public schools across 8 states in the Eastern U.S.
- School size varied widely
  - K-2 staff size (5-24, excluding coach)



Low Income	46.0%
African-American	15.5%
Latino	5.8%
Other	7.2%
White	70.6%
Limited English Proficiency	4.0%

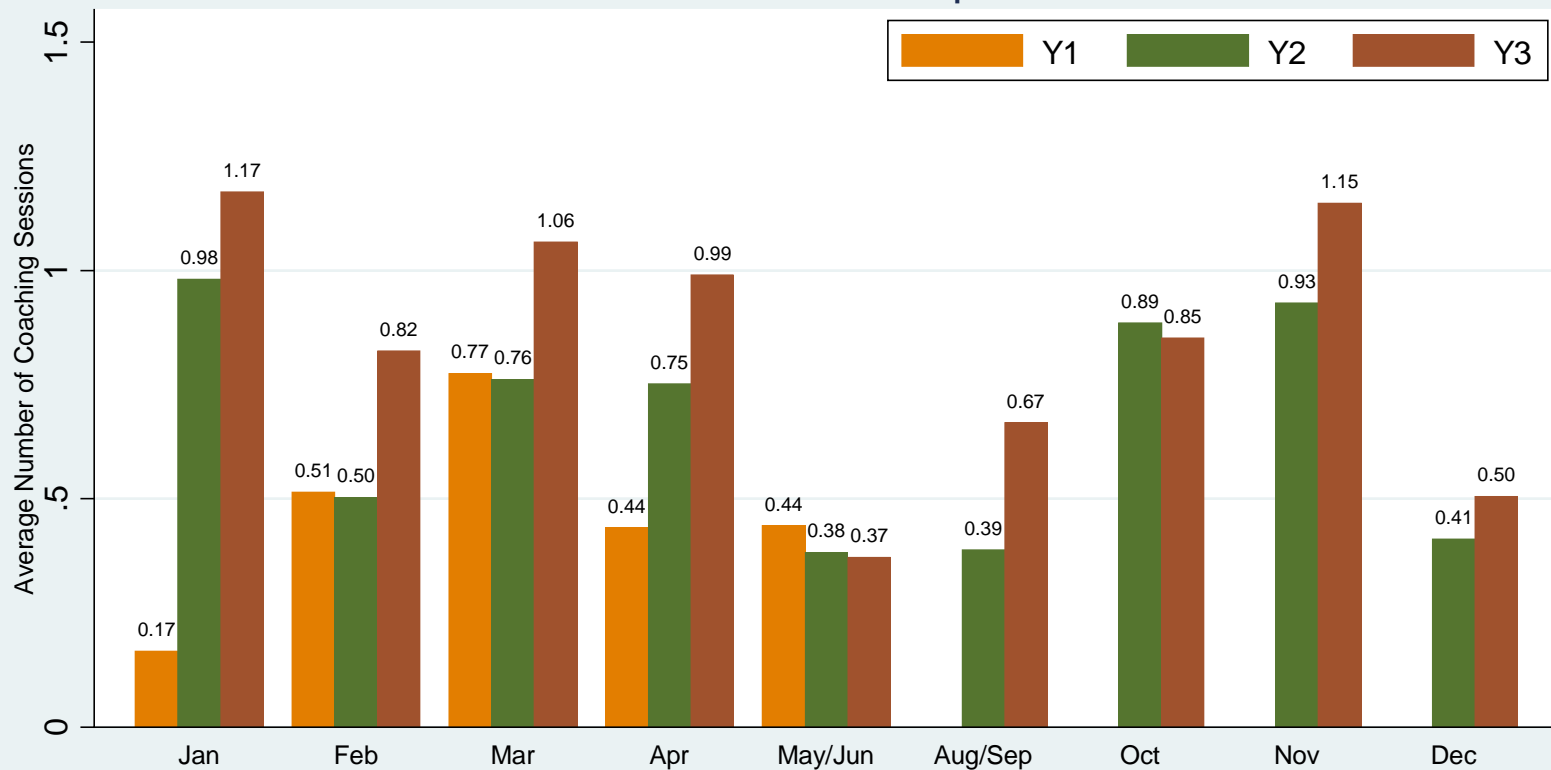


# How much coaching took place?

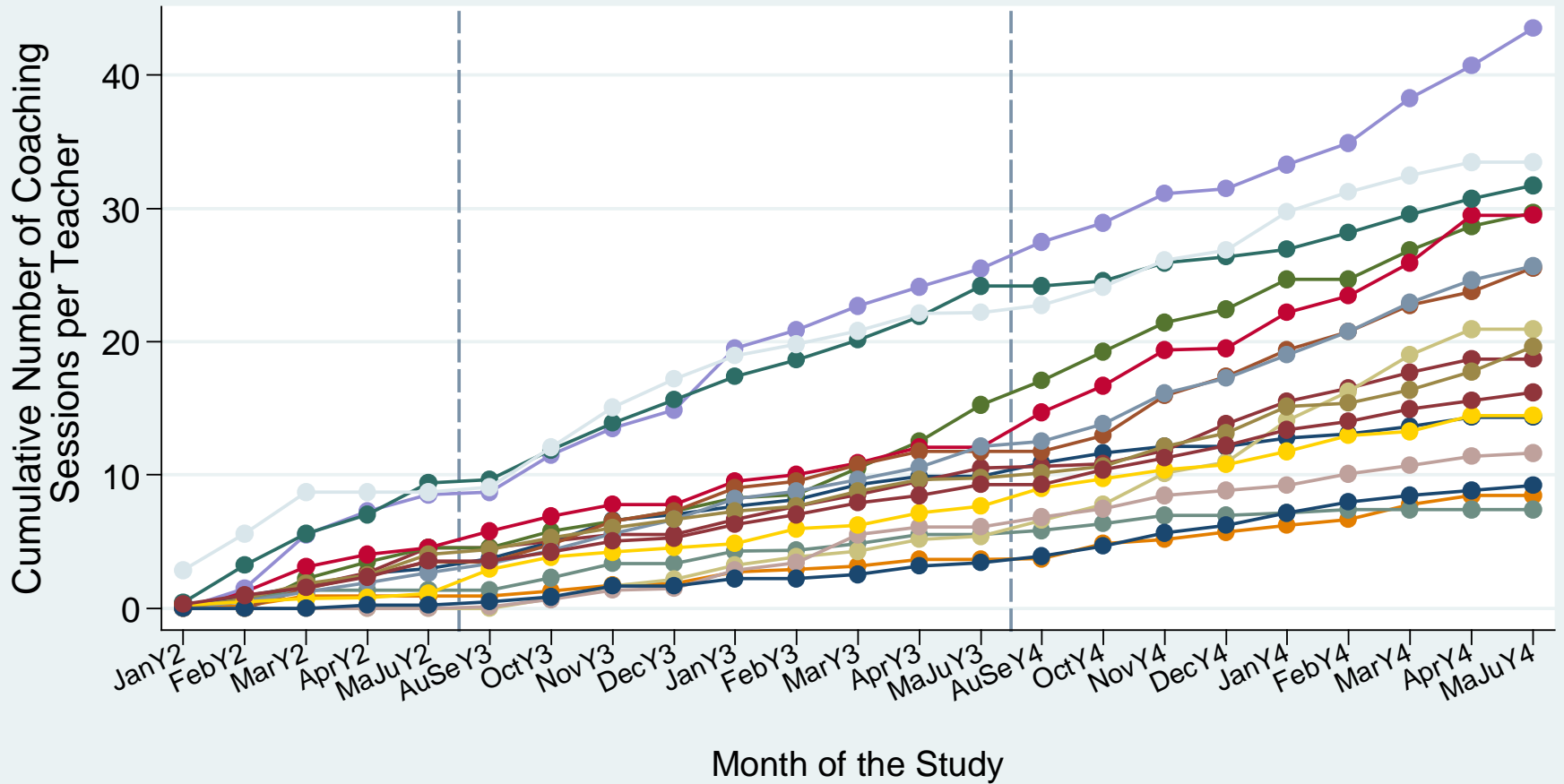
- Coaches completed logs for every professional development workshop and coaching session they held
  - Who was there?
  - How long was it?
  - What was the focus?

# How much coaching took place?

Average Number of Coaching Sessions Per Month, Across Three Years of Implementation



# How much coaching took place?

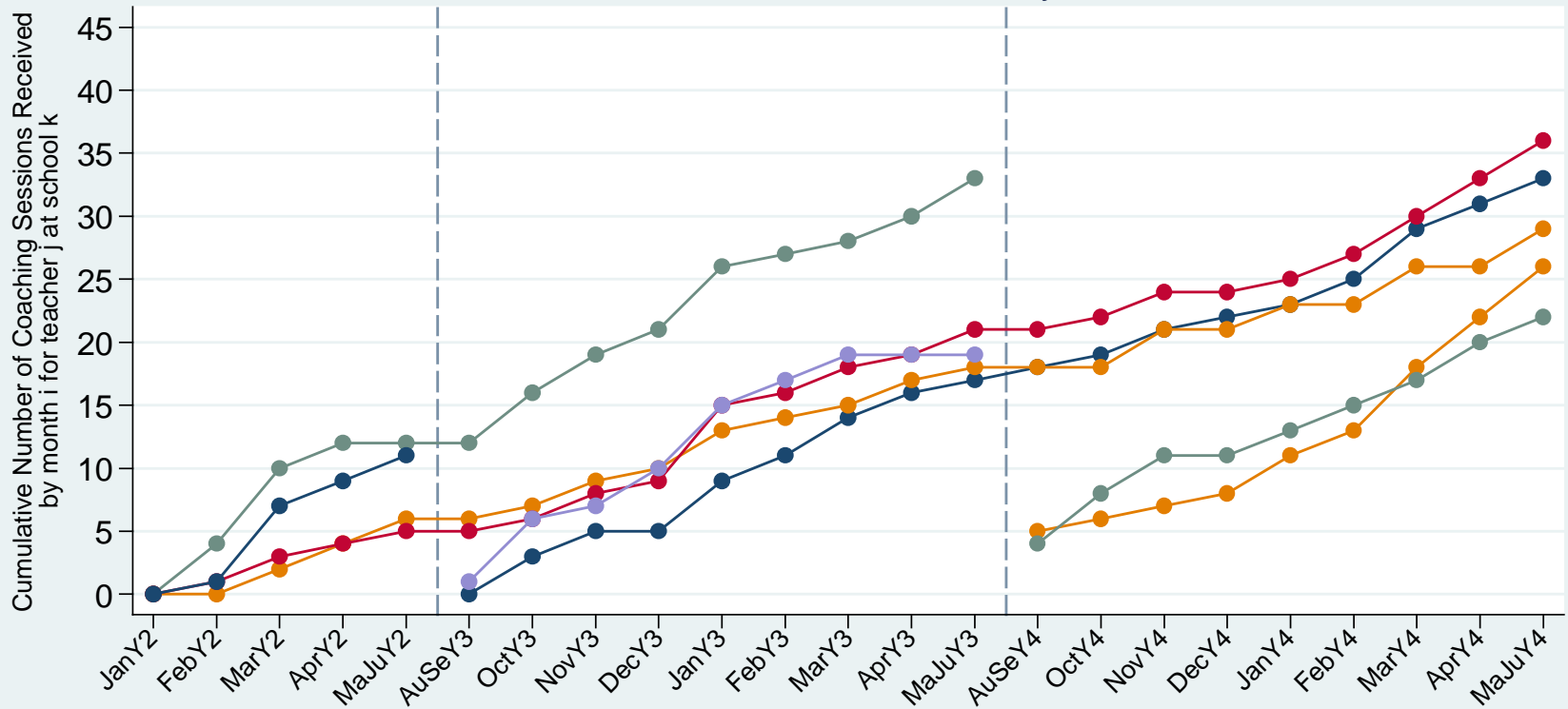


\*Note: Each line represents 1 of the 17 schools in the study



# How much coaching took place?

Cumulative Number of Coaching Sessions Each Teacher Received at Lawndale Elementary



# What predicted how much teachers participated in coaching?

Variable	Definition	Effect size
Teacher-level predictors		
Role conception	Teacher's view of her responsibilities toward supporting her colleagues	0.026
School commitment	Teacher's commitment to staying at and supporting their school	0.049
10+ years prior teaching experience	Teacher who had more than ten years of classroom teaching experience	-0.053
School-level predictors		
<b>K-2 Staff Size</b>	School K-2 staff size (classrooms)	<b>-0.308</b>
Perceived support	Coach's perception that the program would be supported and valued	0.081
Coach's prior training	Coach's prior certification, coursework, or PD in literacy and as an adult educator	0.079
Teacher influence in school decisions	Teachers' involvement in school decision-making	0.054

# Does coaching improve teacher practice?

- Coaches completed rubrics on all participating K-2 teachers
  - How often in a week does each teacher implement each element of the framework? (never, once, 2-3 times, every day or almost everyday)
  - How expertly does each teacher implement each element of the framework? (developmental rubric)
    - Interactive read aloud
    - Shared reading
    - Guided reading
    - Interactive writing
    - Writing workshop
    - Word study
    - Foundational aspects of teaching (including organization, student talk, classroom community)
    - Teaching for strategies (including literal thinking, inferential and analytic thinking, word solving, fluency and phrasing)

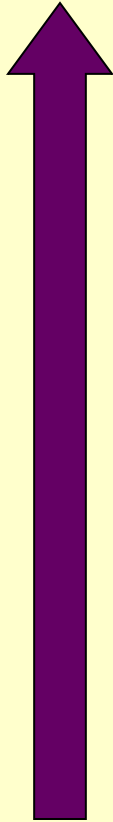
## **Example: Guided Reading Rubric has 5 separate components that are rated**

- Text Selection
- Text Introduction
- During the Reading
- After Reading
- Word Work



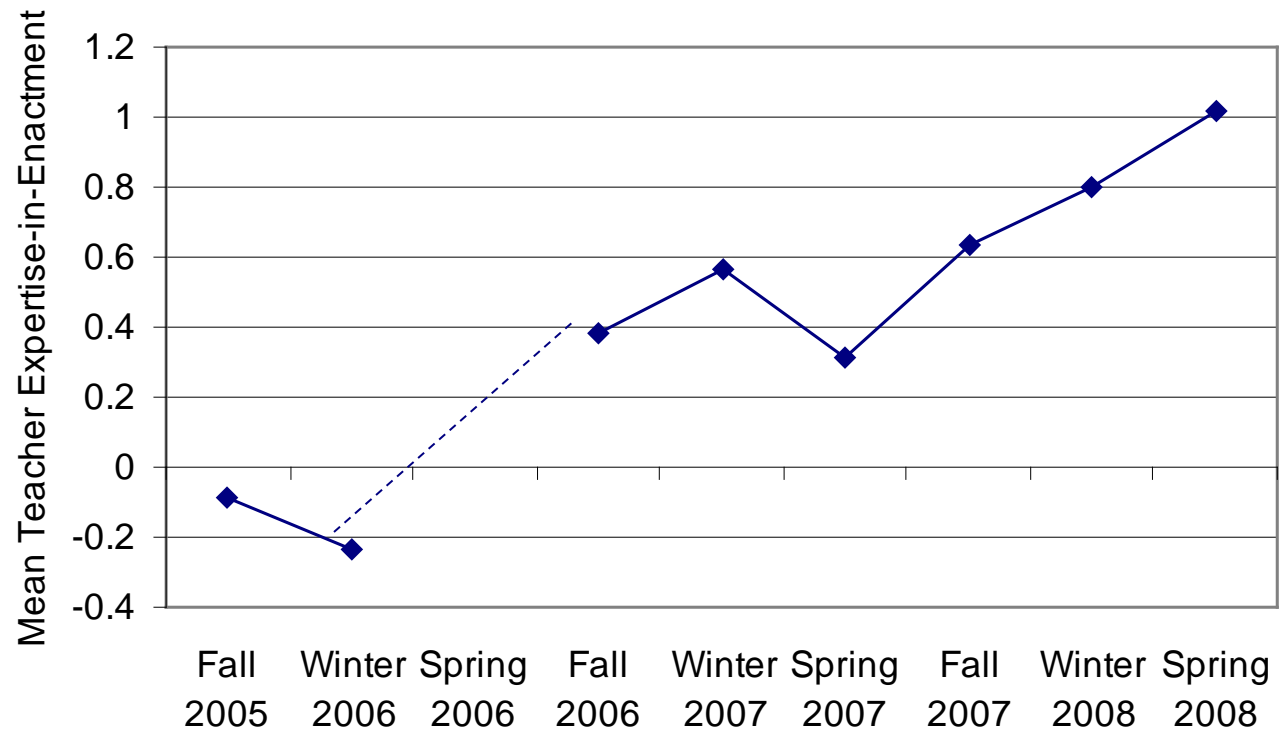
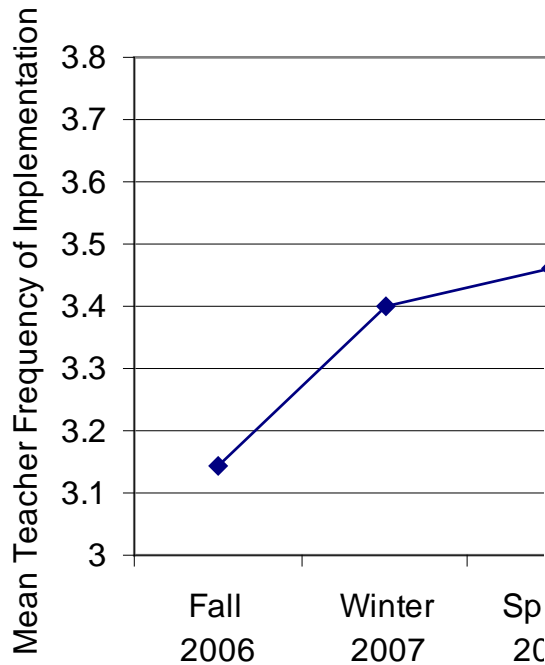
# Does coaching improve teacher practice?

Expertise development

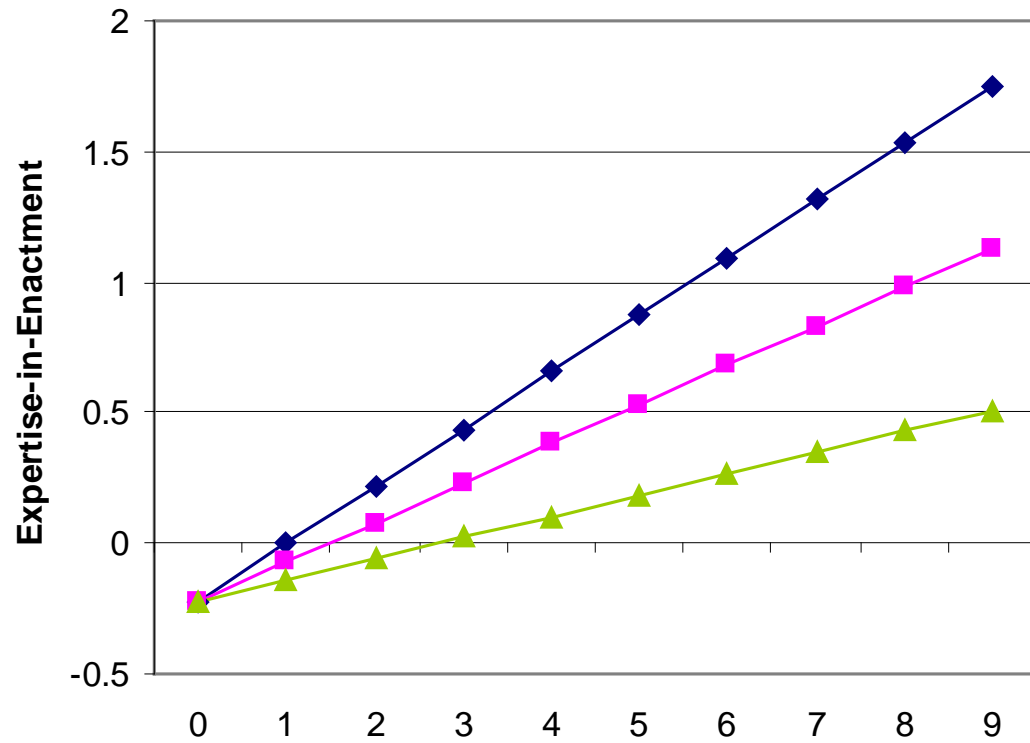
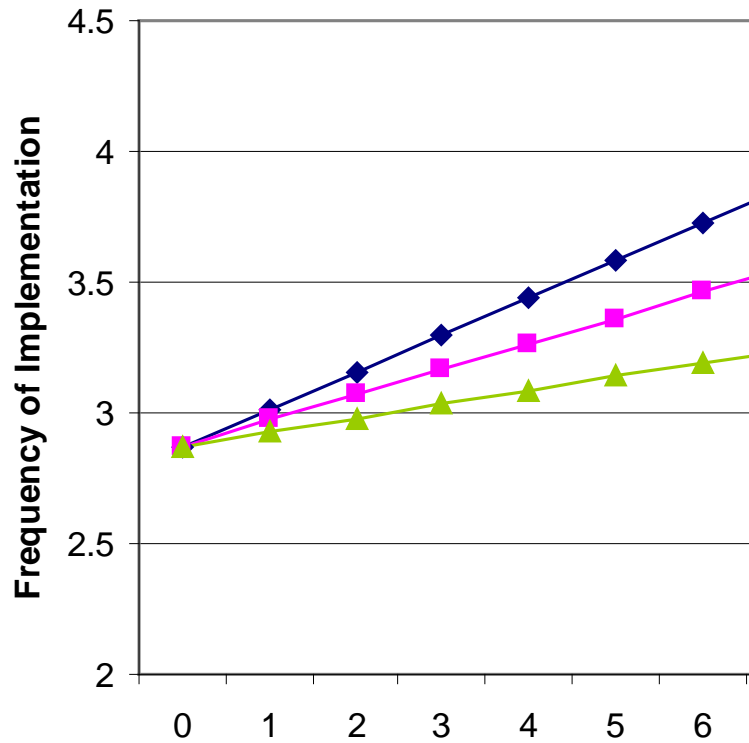


- Facilitation of student talk and sharing that creates opportunities to deepen their thinking and understanding
- Strategic selection of specific teaching points based on student reading and writing behaviors in the context of various activities
- A general explication and demonstration of principles underlying the reading and writing process as scaffolding for students
- Focus on the organizing routines and materials for the practice

# Does coaching improve teacher practice?



# Does coaching improve teacher practice?



# Does coaching improve teacher practice?

Variable	Definition	Effect size	Effect size
Initial status, Teacher-level moderators			
School commitment	Teacher's commitment to staying at and supporting their school	0.252	0.288
Prior PD participation	Teacher's willingness to participate in PD opportunities	0.238	
≤ 3 years prior teaching experience	Teacher who had three or fewer years of classroom teaching experience	-0.951	
Prior experience in comprehensive literacy	Teacher's prior adoption of key procedural and decision-making aspects of comprehensive literacy		0.249
Growth, Teacher-level moderators			
<b>Coaching participation</b>	Teacher's average one-on-one coaching sessions per month	<b>0.231</b>	<b>0.112</b>

No significant school-level predictors

# Does a coaching model improve literacy learning?

- Children tested in fall and spring for 4 years to measure change over time in students' literacy learning using:
  - Dynamic Indicators of Basic Early Literacy Skills (DIBELS)
    - Phonemic Awareness (initial sound fluency and phonemic segmentation)
    - Letter-name knowledge
    - Decoding skill (nonsense words)
    - Oral reading fluency
  - Terra Nova each spring (grades 1 and 2)

# Does a coaching model improve literacy learning?

- Student literacy learning scale
  - Tests scaled together using Rasch analysis
  - Reported in *logits*
  - Equal differences on scale imply equal differences on the trait measured at any level
  - Average growth turns out to be 1 logit per school year



# Does a coaching model improve literacy learning?

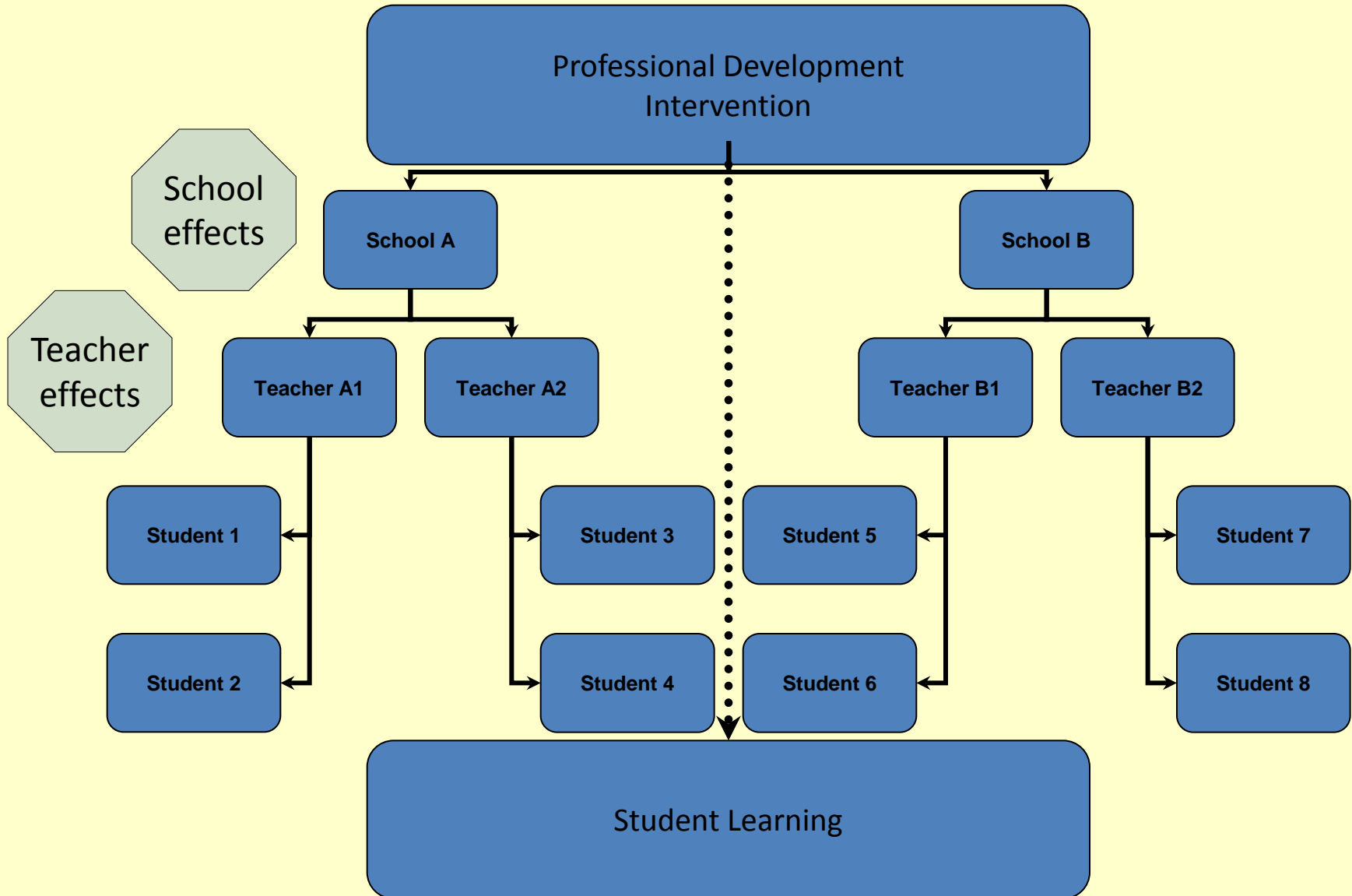
Value-added

Hierarchical

Cross-classified

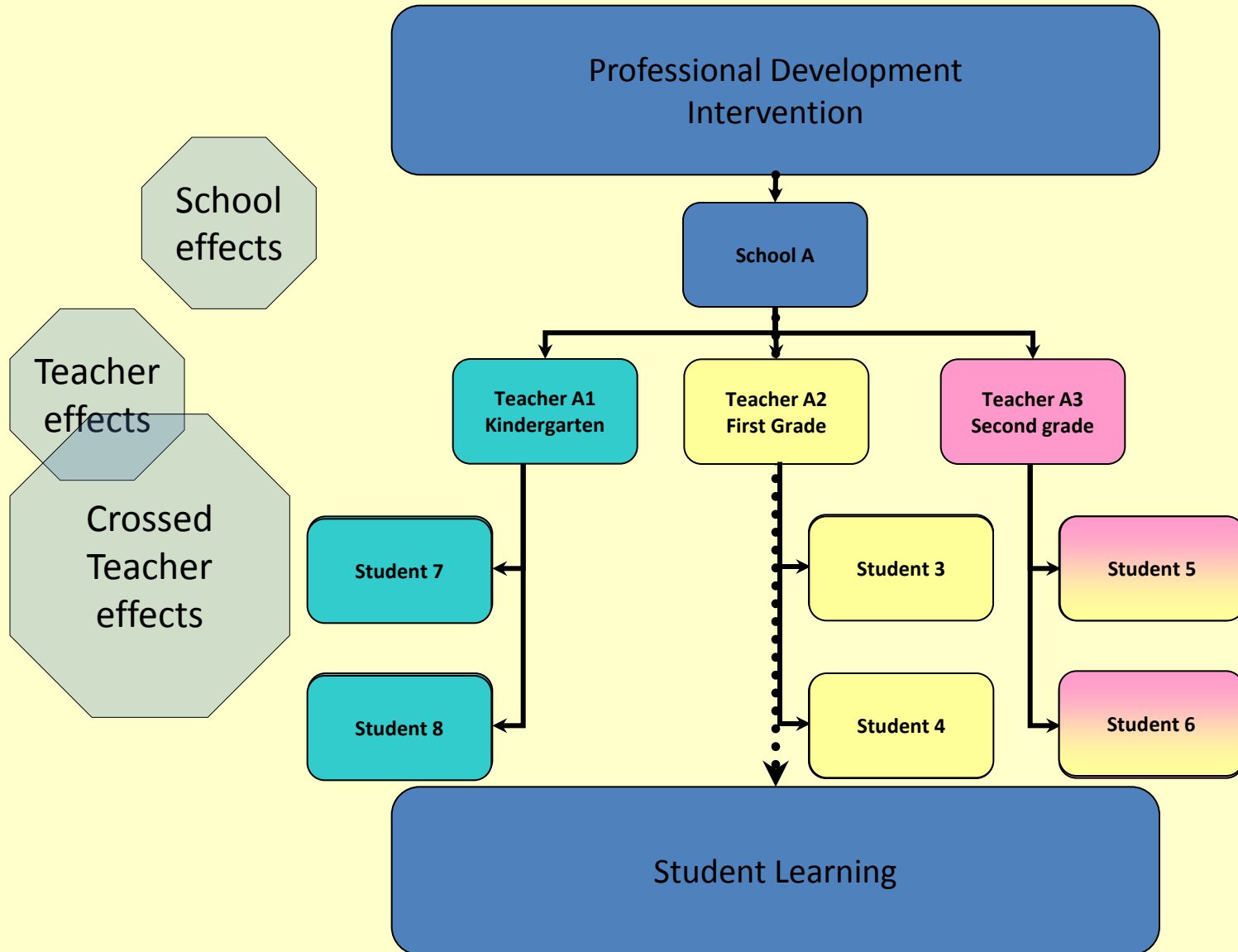
Effects Model

# The Hierarchy

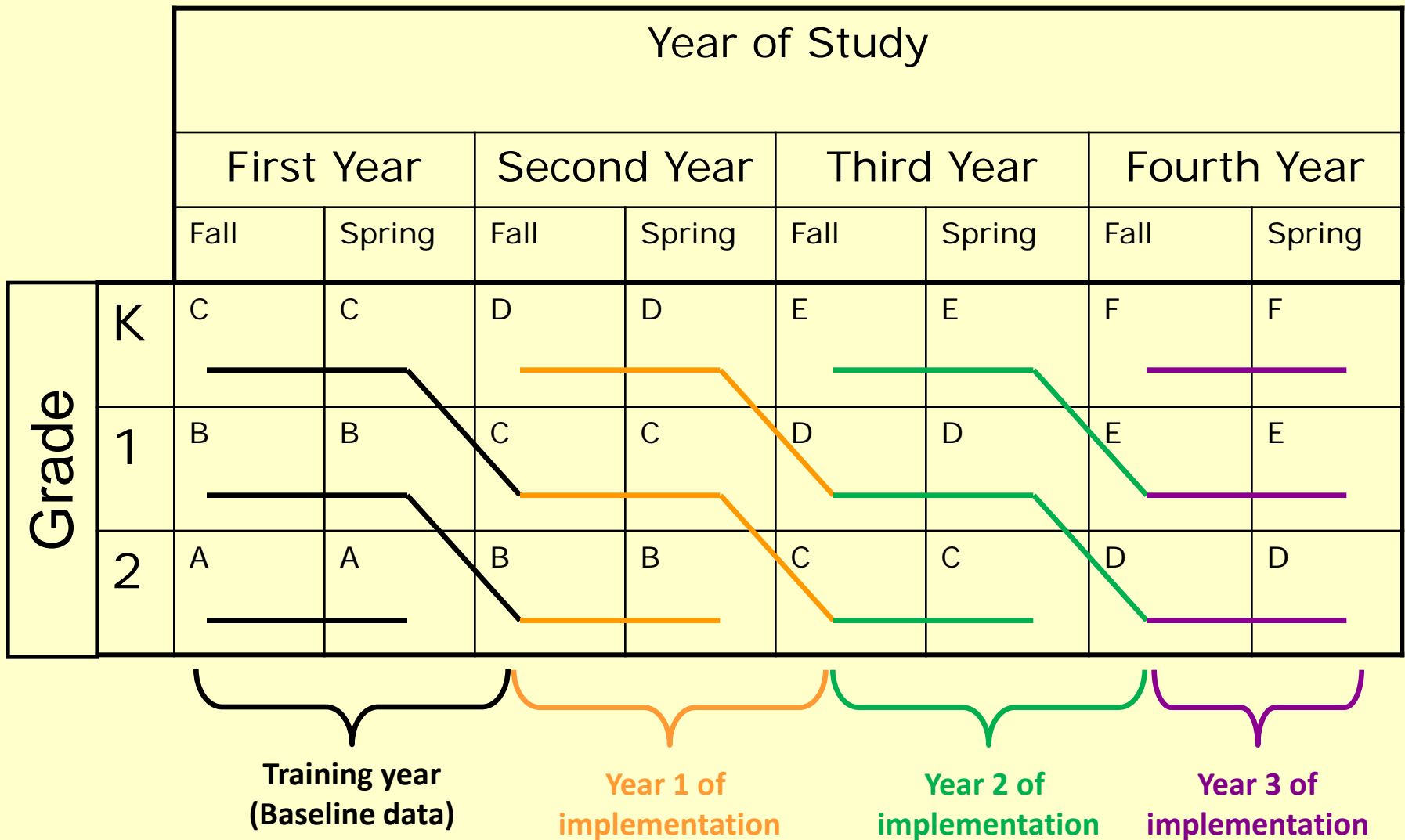




# The Cross-classification



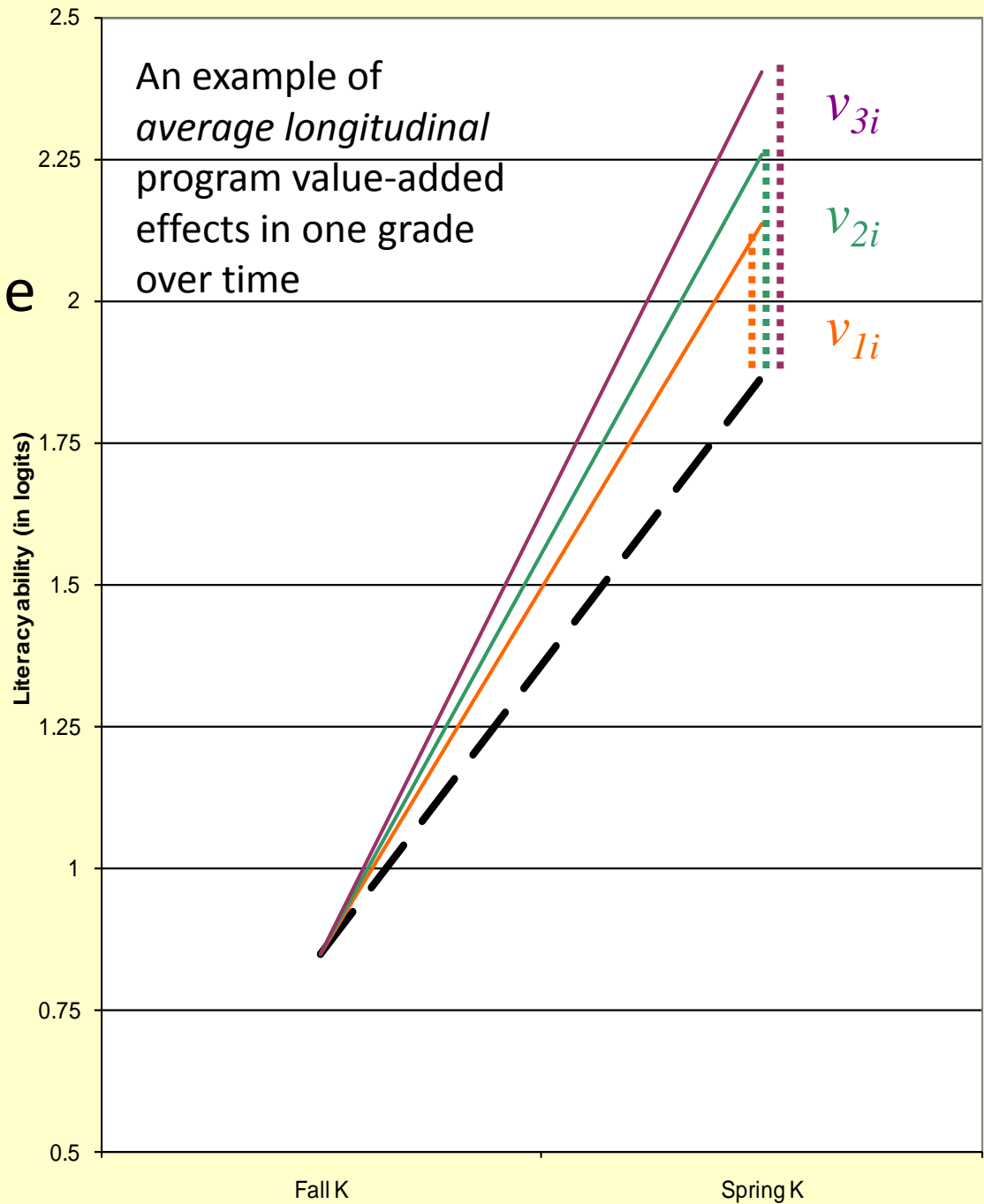
# Using “cross-classification” to our advantage 6 cohorts studied over 4 years



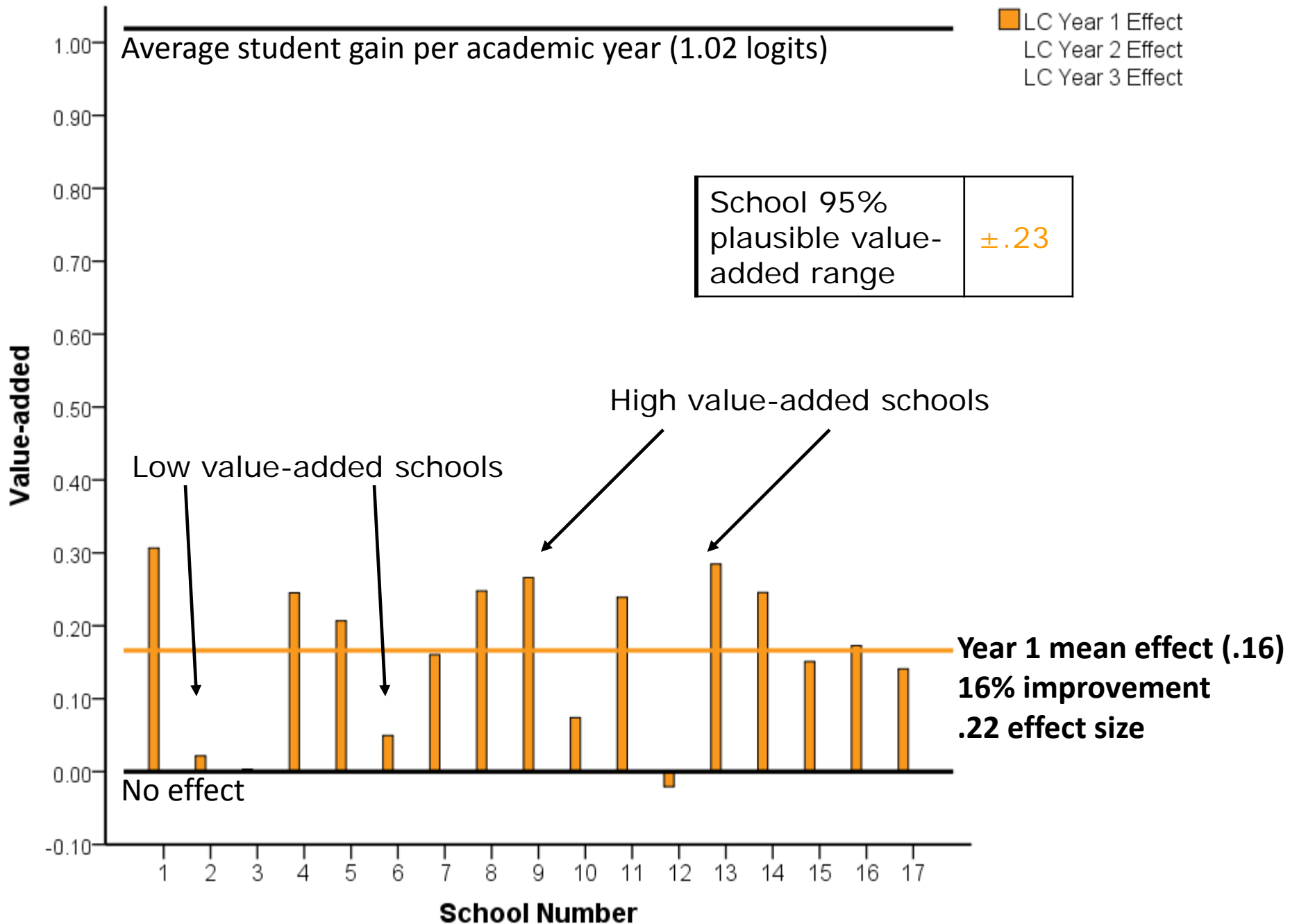
# The Value-Added

- The difference between two “possible outcomes”:
  - the observed outcome given the teacher experienced
  - and the expected outcome given an “average teacher experience” in the “average school”

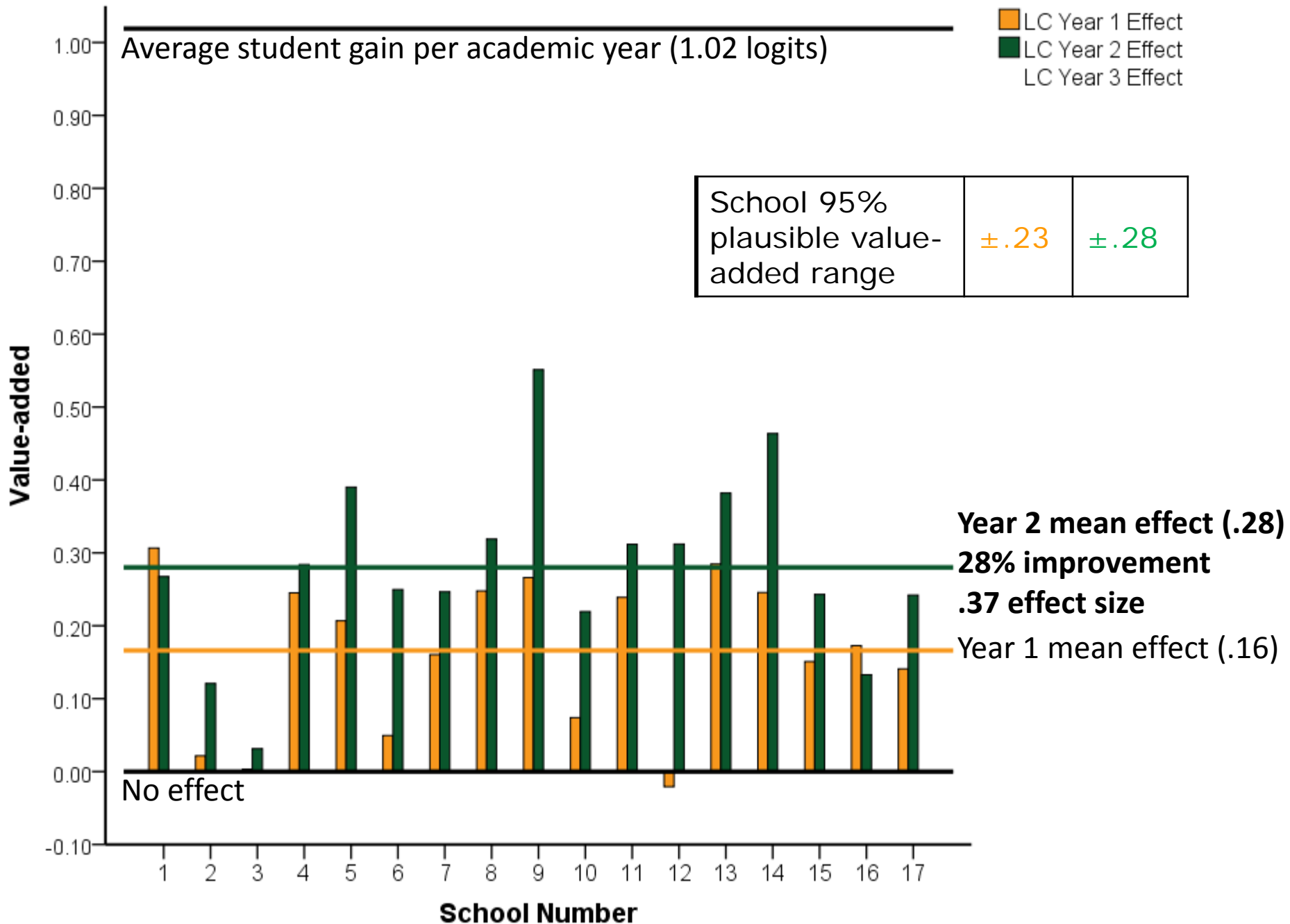
Black Latent growth trajectory  
Orange 1st year implementation  
Green 2nd year implementation  
Plum 3rd year implementation



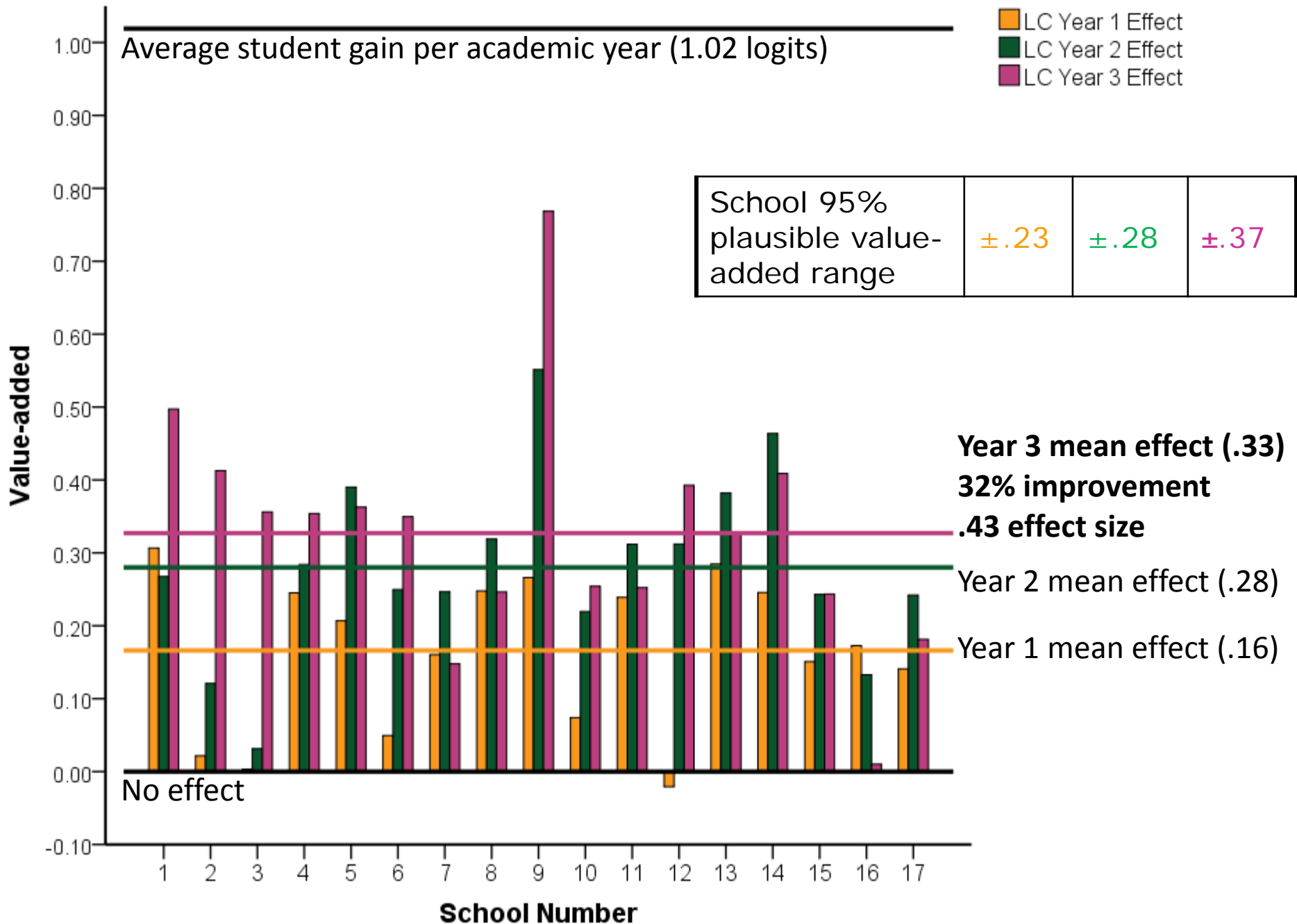
# Does a coaching model improve student literacy learning?



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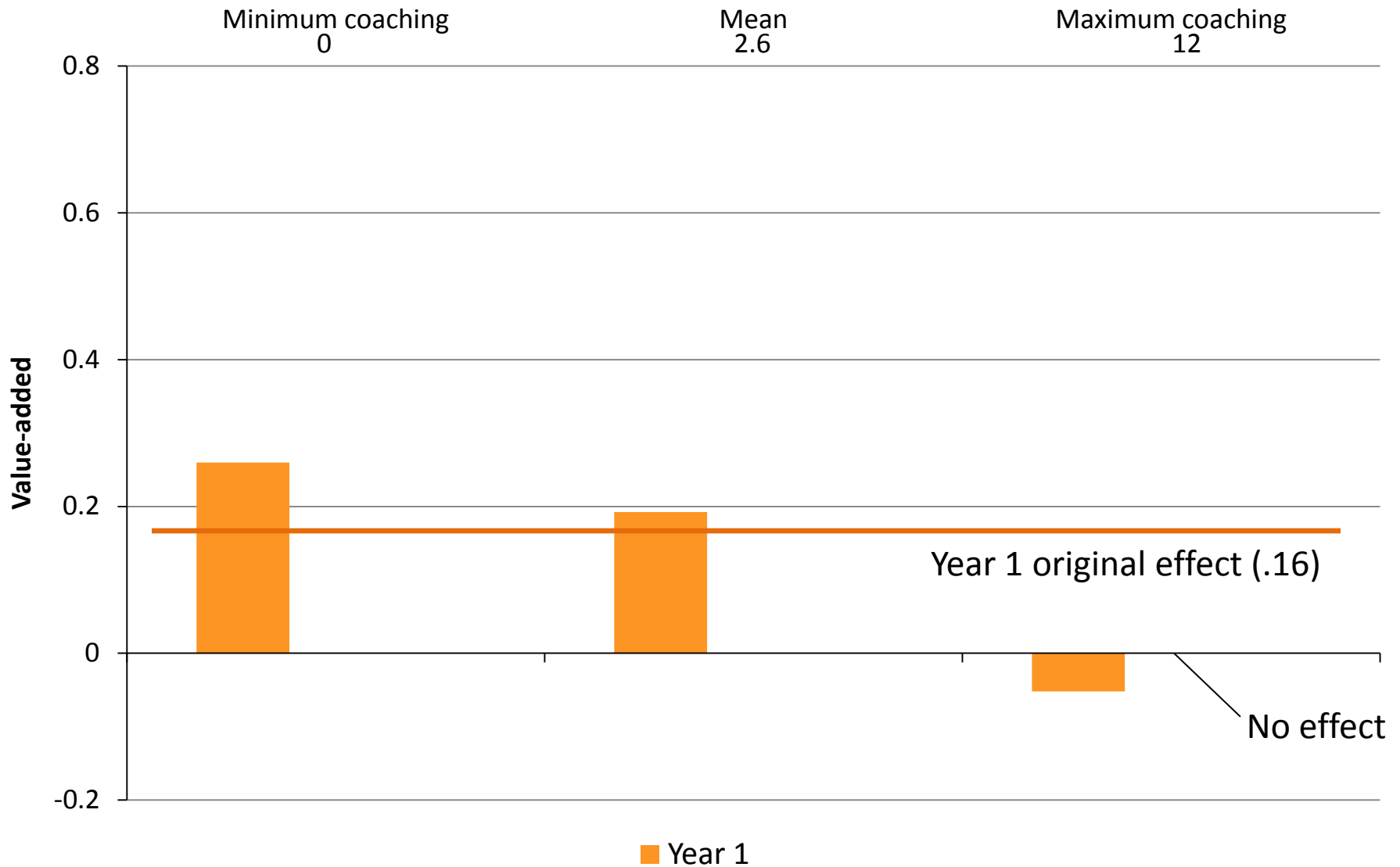


Does coaching experienced directly predict student literacy learning?

What explains variability in schools' and teachers' value-added?

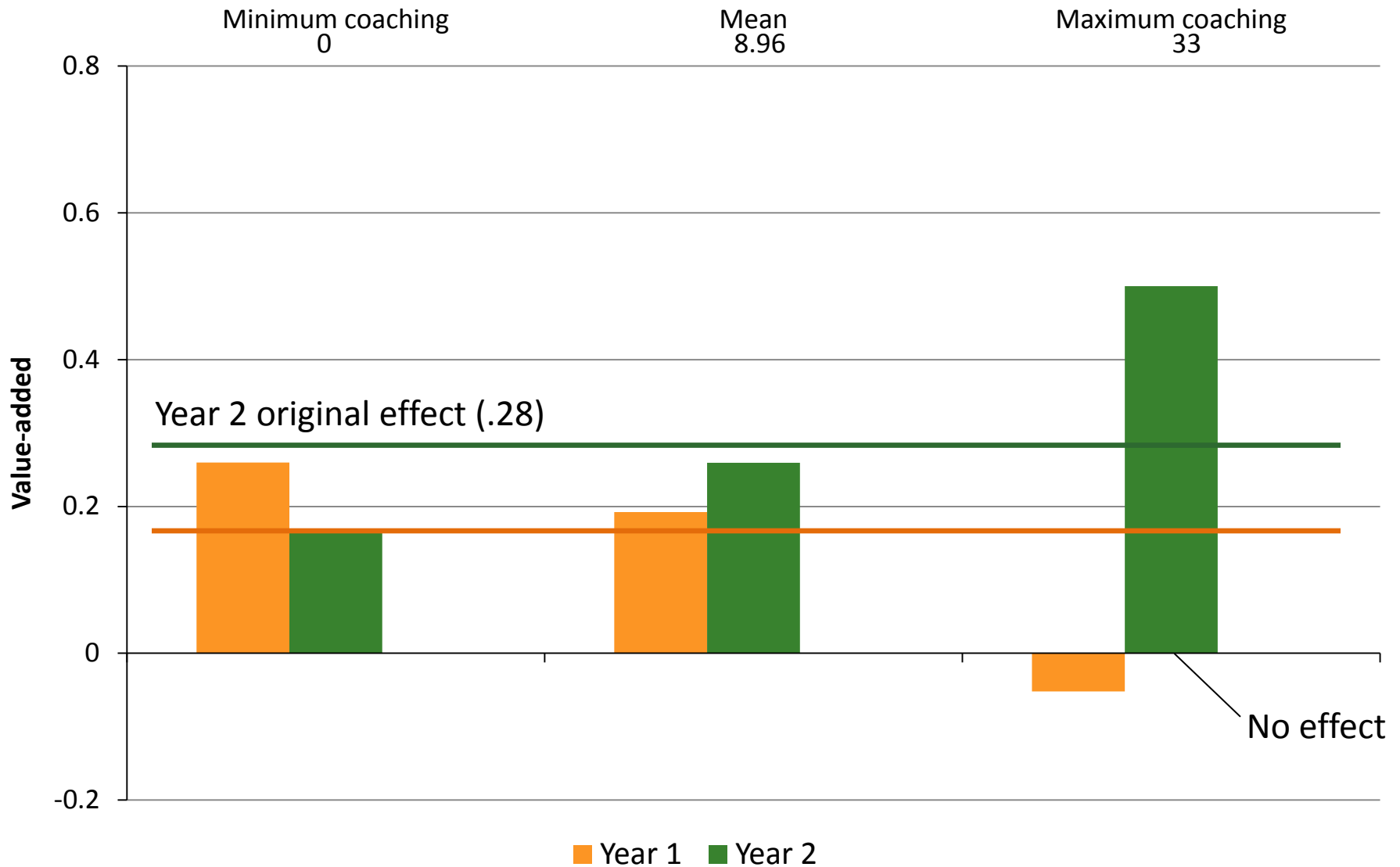
- Teacher characteristics significant in prior analyses
- Teacher expertise of implementation
- Cumulative coaching experienced per teacher
- Average cumulative coaching experienced per school

# How do we make sense of the coaching effects?

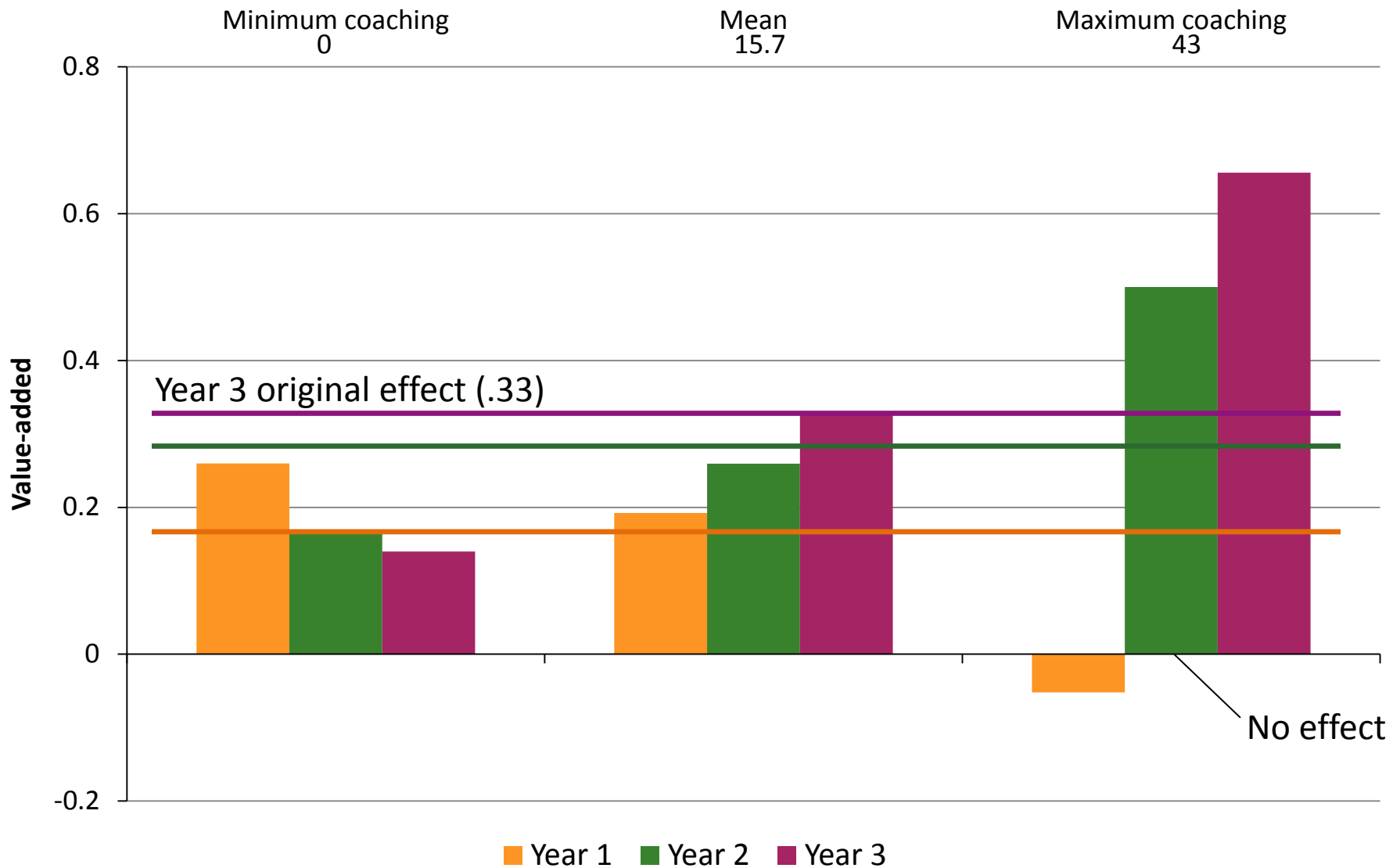




# How do we make sense of the coaching effects?

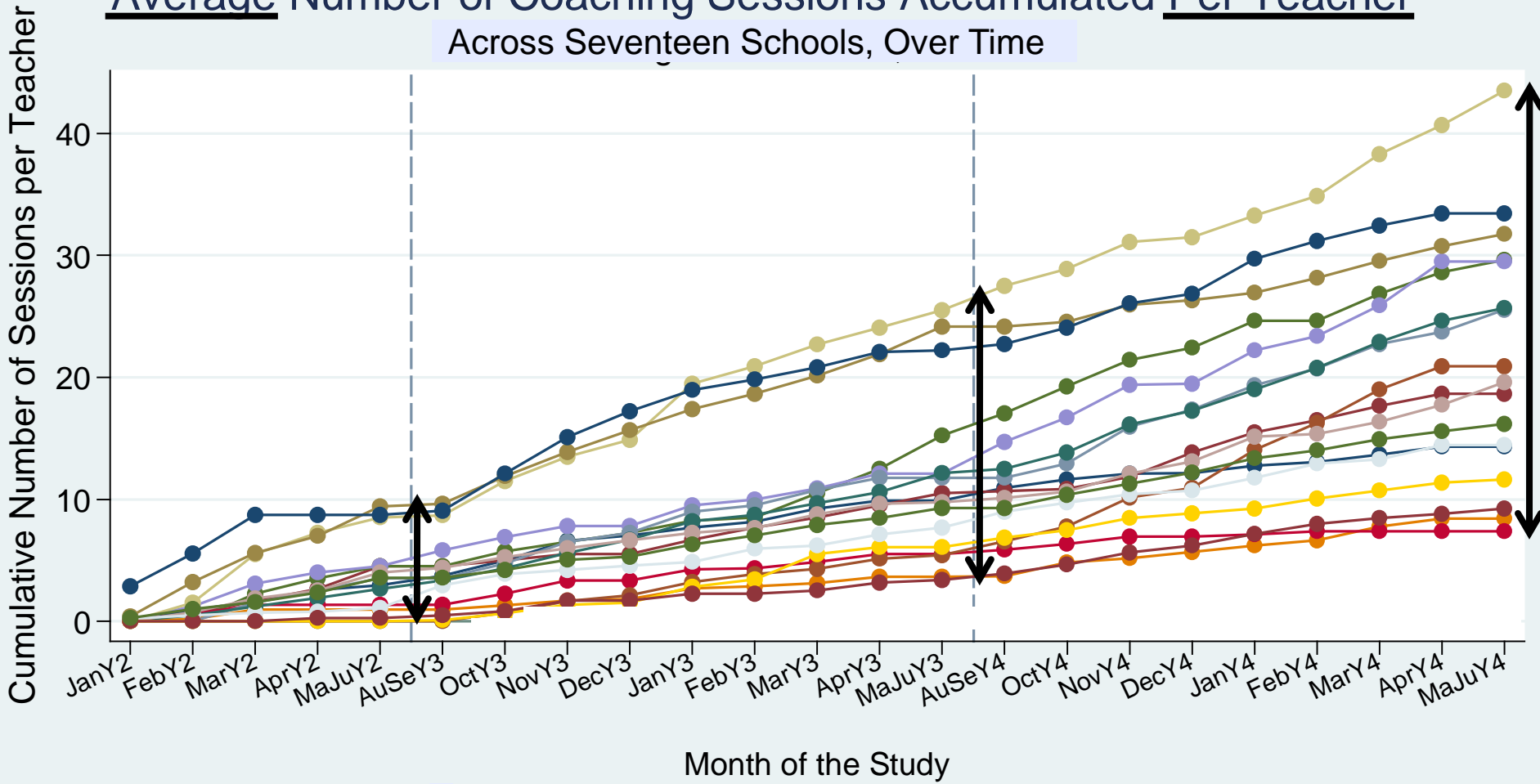


# How do we make sense of the coaching effects?



# Tremendous Variability in Coaching between Schools

Average Number of Coaching Sessions Accumulated Per Teacher  
Across Seventeen Schools, Over Time



\*Note: Each line represents 1 of the 17 schools in the study

# Bringing Our Story Back to the Real World: A Tale of Two Schools

## School 10: Riverside

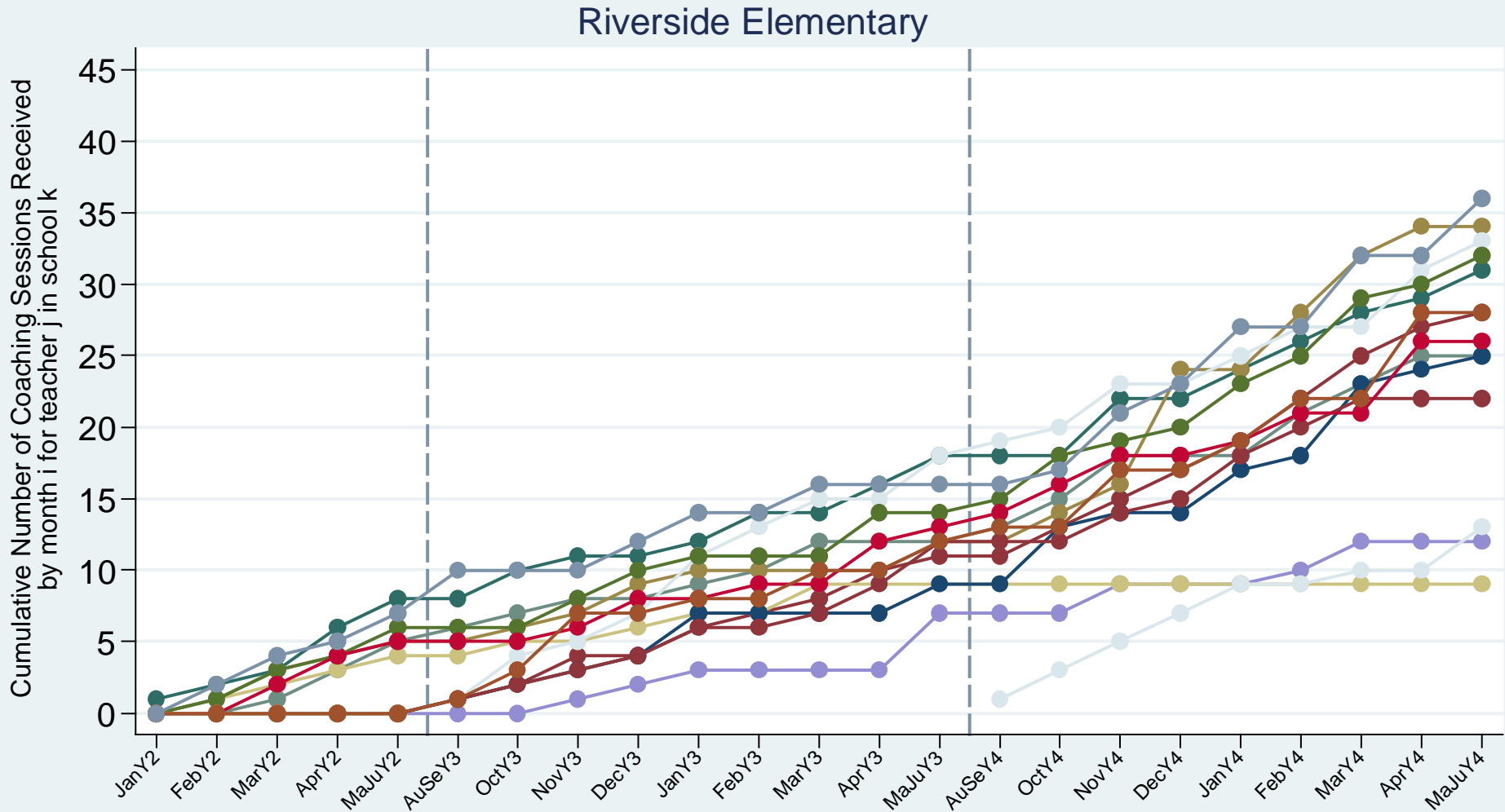
- Staff size = 14
- Value-added:  
Y1 → Y2 → Y3  
0.07 → 0.22 → 0.25
- Starts below average and improves
- Variability between teachers decreases from Y1 to Y3

## School 16: Tyson William

- Staff size = 14
- Value-added:  
Y1 → Y2 → Y3  
0.17 → 0.13 → 0.01
- Starts at average and deteriorates
- Variability between teachers increases from Y1 to Y3

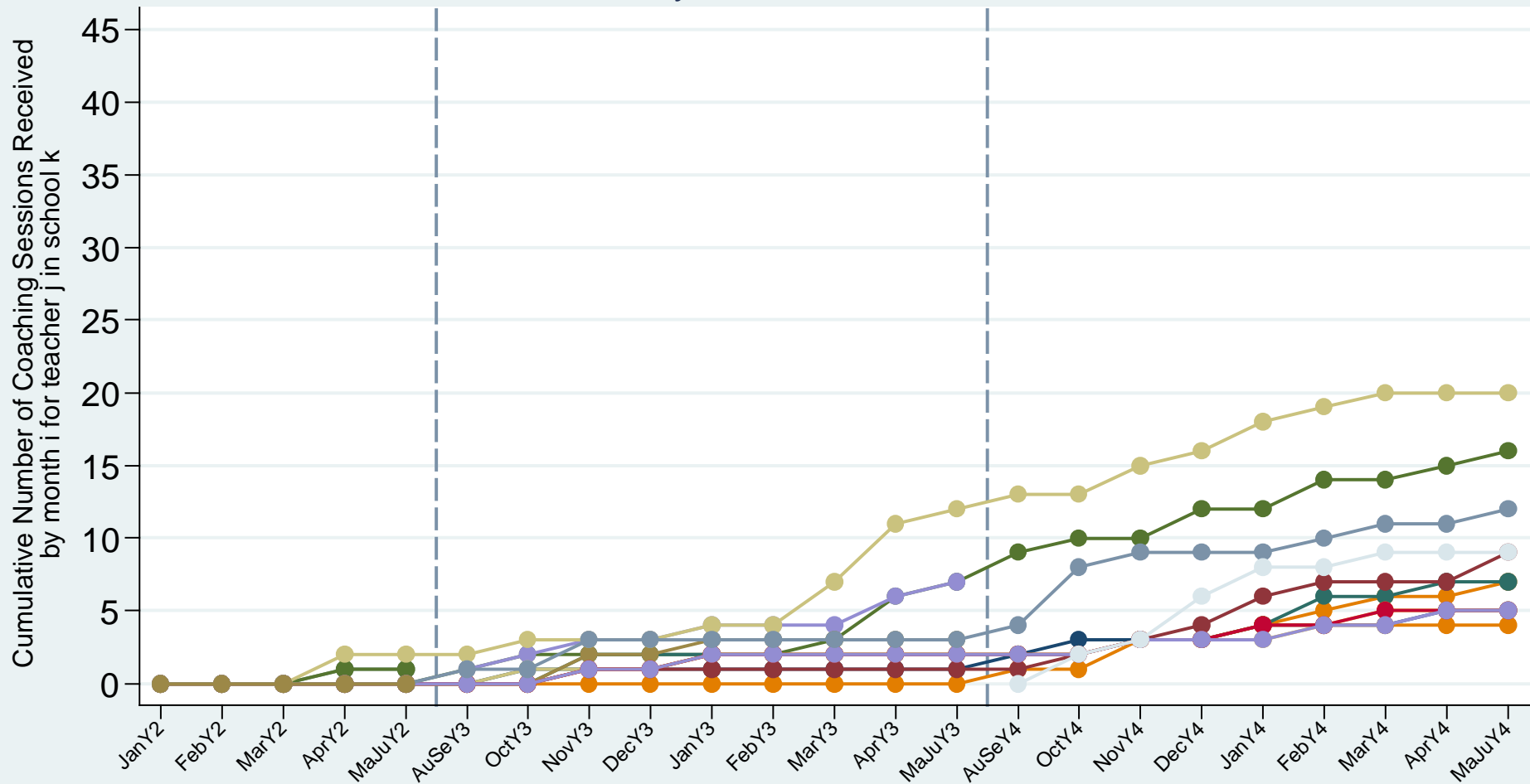
How can we make sense of what happened in these two schools?

# School 10: Coaching Sessions Accumulated per Teacher



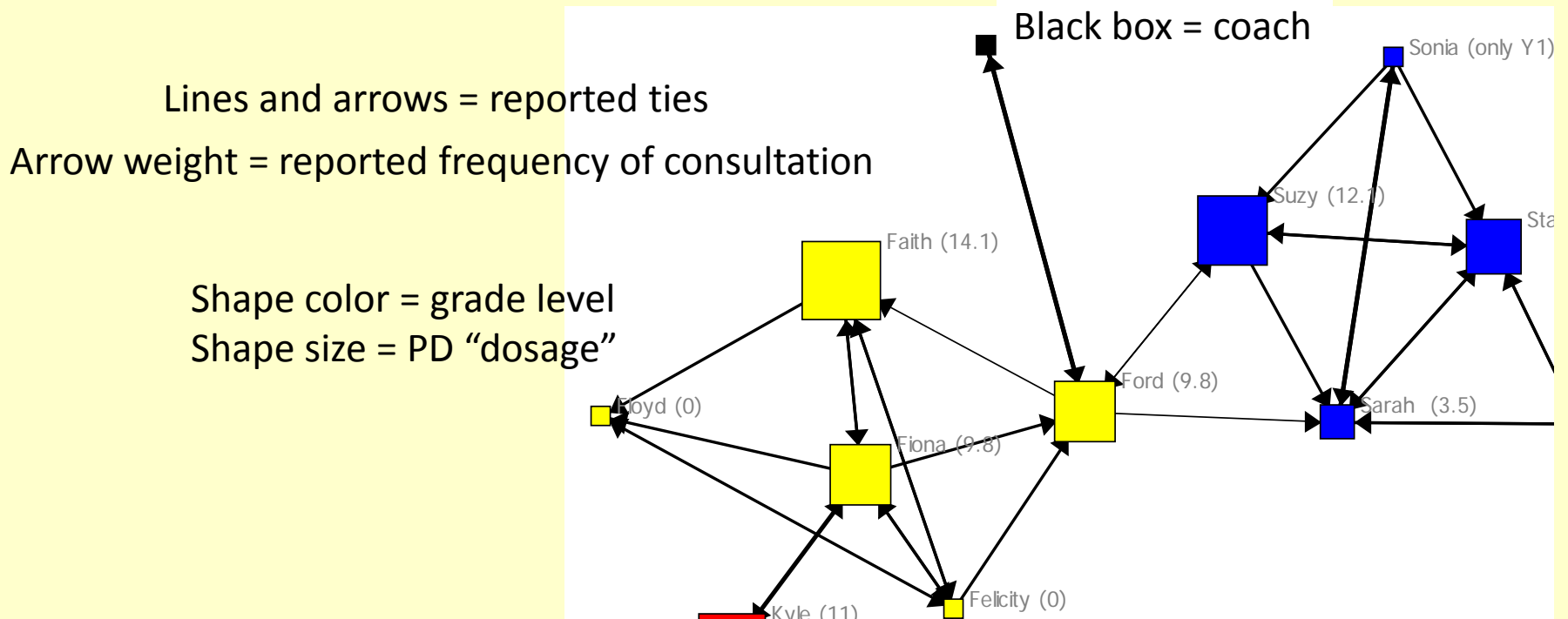
# School 16: Coaching Sessions Accumulated per Teacher

Tyson William

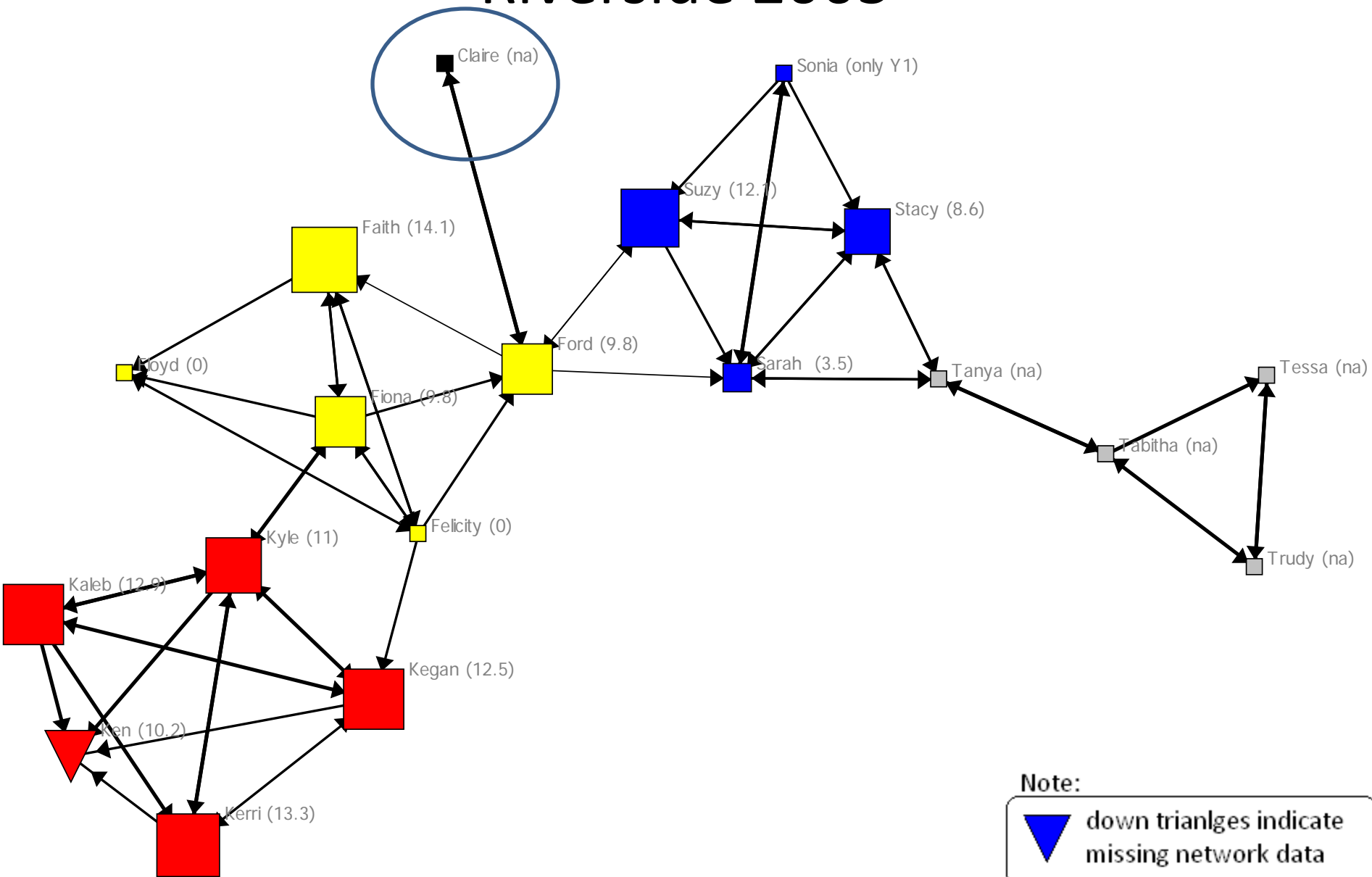


# Network Analysis

- Conducted by Allison Atteberry & Tony Bryk
- Pre- and post-teacher surveys asked who talked to about instruction and student problems in literacy (up to 7) and how often



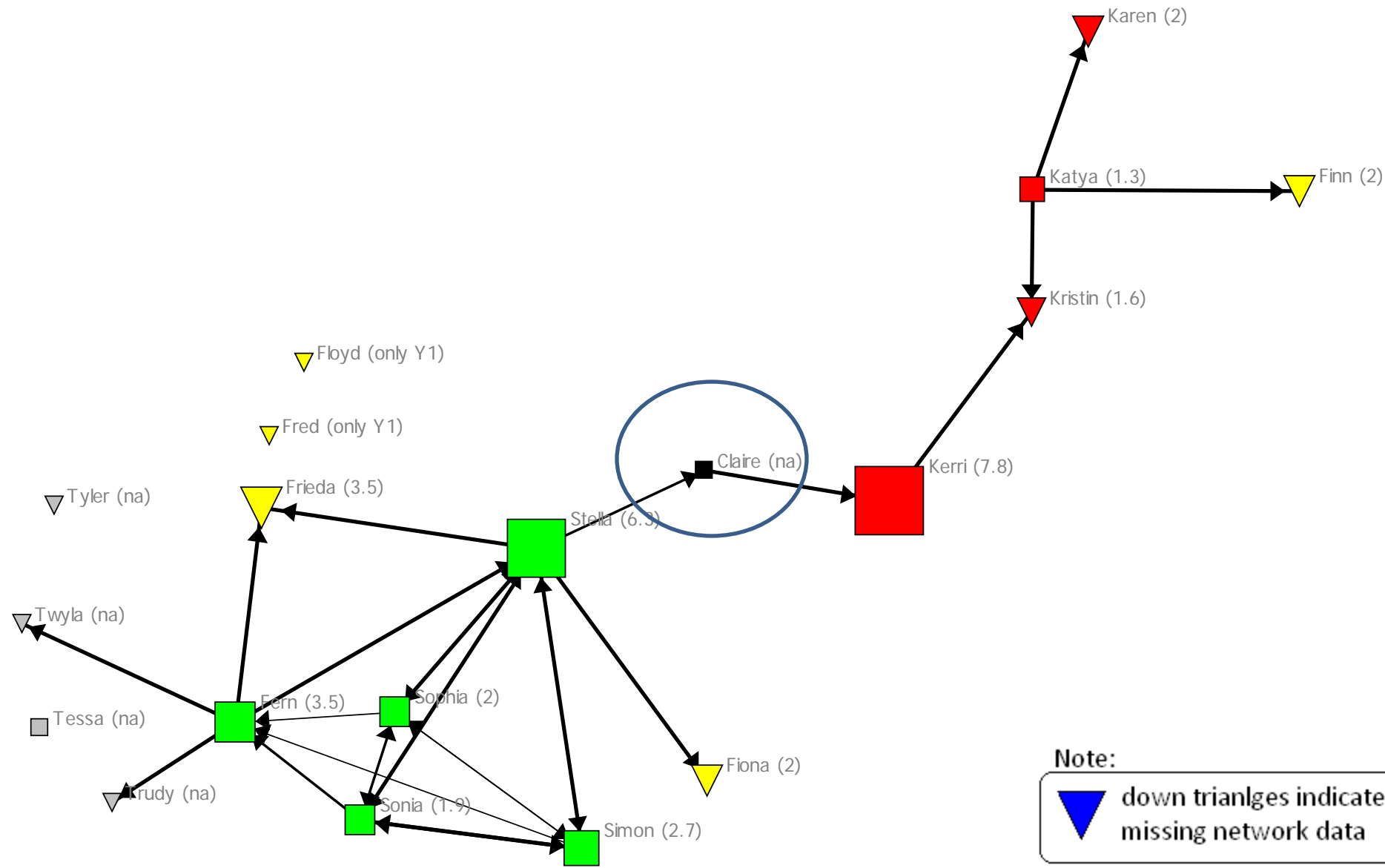
# School 10 Riverside 2005



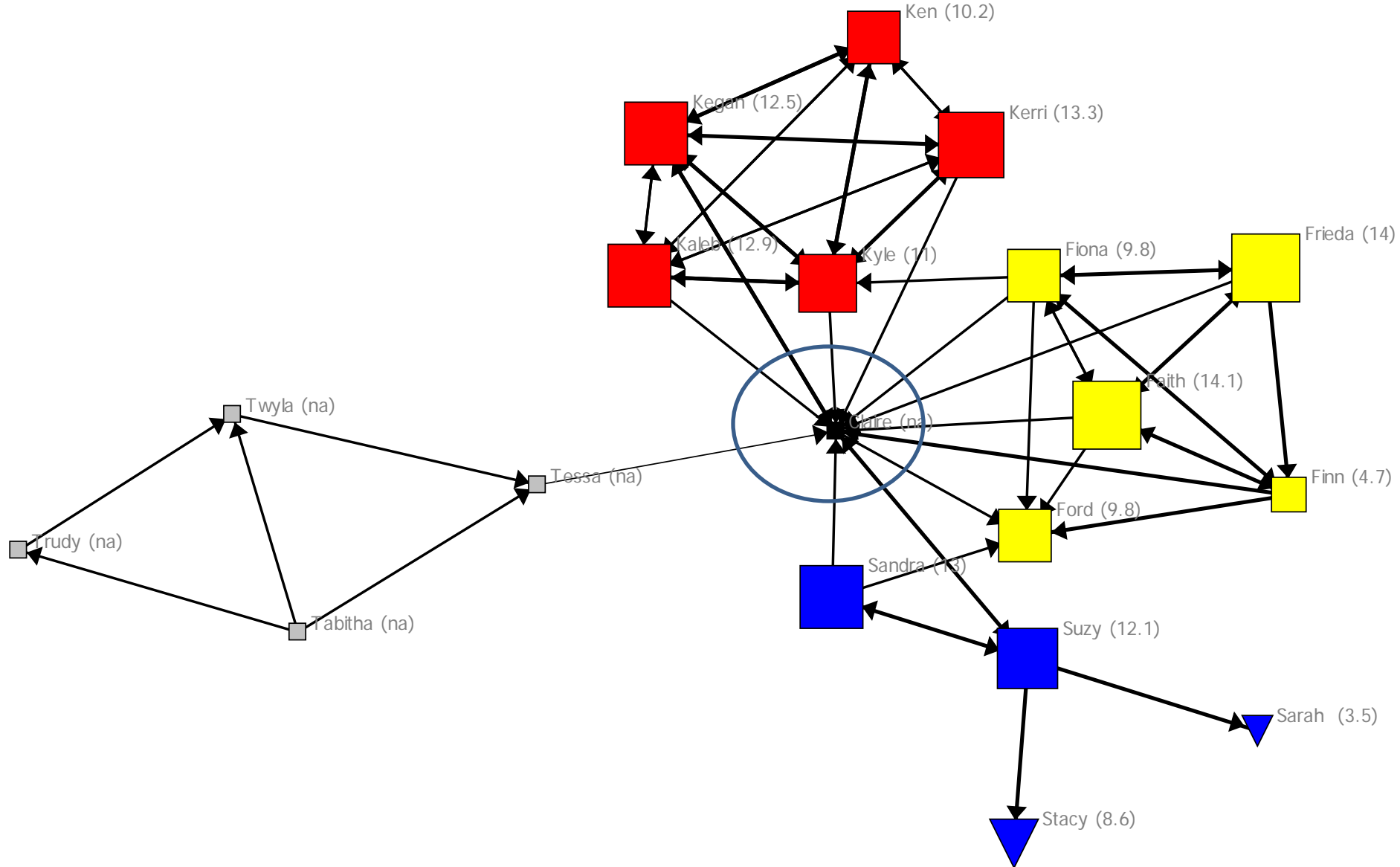


# School 16

## Tyson William Elem 2005

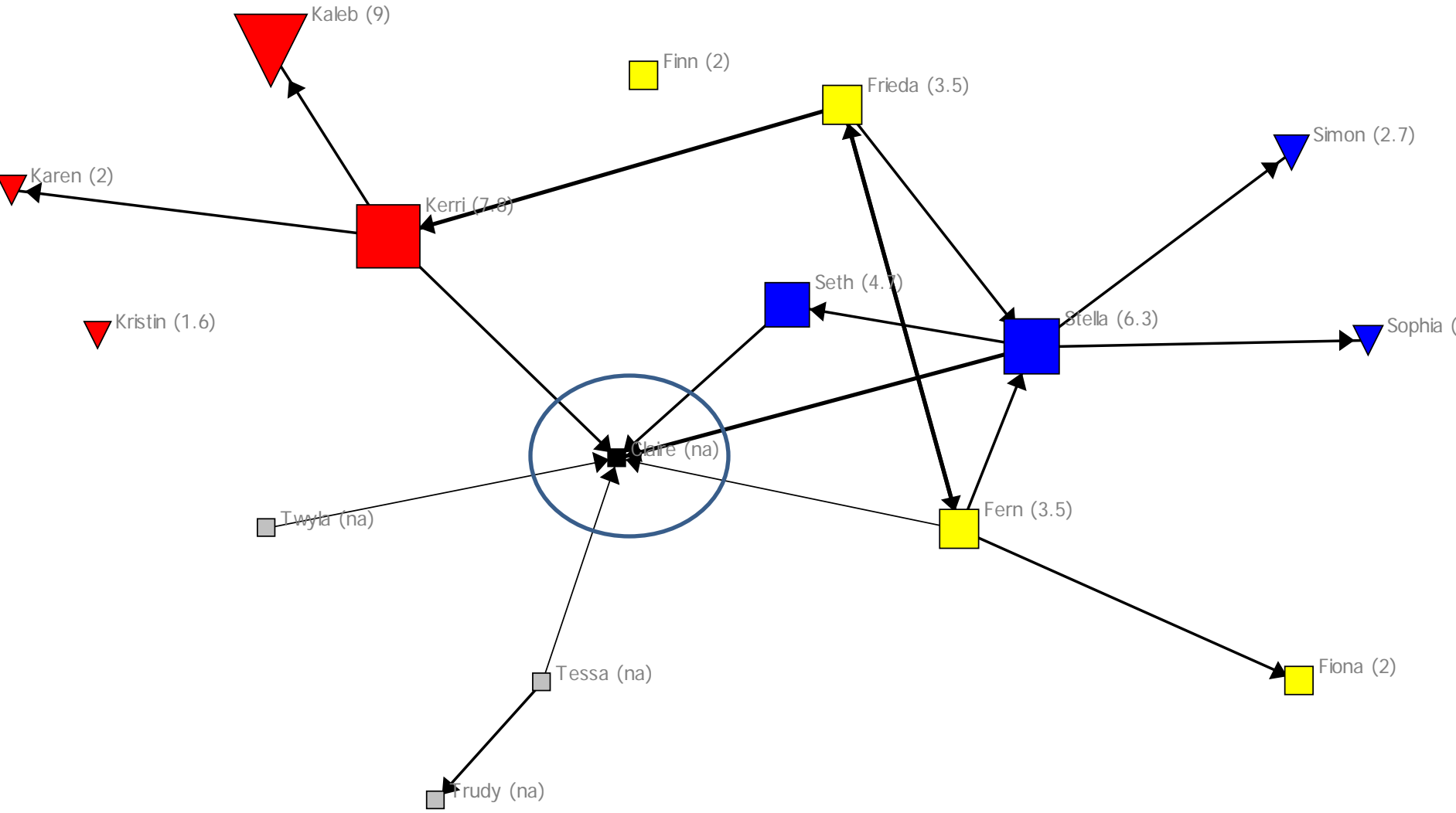


# School 10 Riverside 2008



# School 16

## Tyson William Elem 2008



# Summary of findings

- Coaching activity
  - Ramped up over time
  - Seasonality to coaching
  - Twice per month may not be realistic
  - School staff size MATTERS
- Coaching's effect on teacher expertise development
  - Coaching MATTERS for growth
  - Individual characteristics determine starting expertise, but not growth

# Summary of findings

- Coaching's effect on student learning
  - Overall effects
    - Clear evidence for efficacy
    - Increasing effects over time
- Evidence that the primary *mechanism* for improved value-added *shifts* over time
  - Year 1: No/negative coaching value-added
  - Year 2: Coaching contributes to value-added
  - Year 3: Coaching becomes primary mechanism

# Limitations

- Quasi-experimental evidence is compelling, but not conclusive
- Limited sample, especially at school level, limits ability to explore contextual mechanisms
- Could not link change in teacher practice to change in student performance
- Literacy Collaborative is *one* model of coaching that includes many other aspects

# Implications

- Coaching *ramps up* over time
- Coaching impacts both teachers and students
- Coaching largely mediates teachers' value-added to student learning by year 3
- Year 1 coaching effects cannot be ignored
  - Selection?
  - Dosage?
  - Development/expertise of teachers?
  - Development/expertise of coaches?
- Year 1 effect still positive on average
  - Workshops?
  - Other aspects of program?

# Thank you!

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Biancarosa et al., 2010, *Elementary School Journal*

Atteberry et al., in press, *Elementary School Journal*

Hough et al., in preparation, <http://literacycollaborative.org/>