Effective Teacher Instructional Behaviors to Decrease Challenging Student Behavior

Key Words: Academics, Applied Evaluation, Classroom

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CIBRS

If the children aren't learning, we're not teaching

Siegfried Engelmann

- It's all about probability – some things work better than others -- **Practices Matter!**

- All behavior change is an instructional process -- **Instruction Matters!**

- Student behavior won't change until adult behavior changes -- **Teachers Matter!**

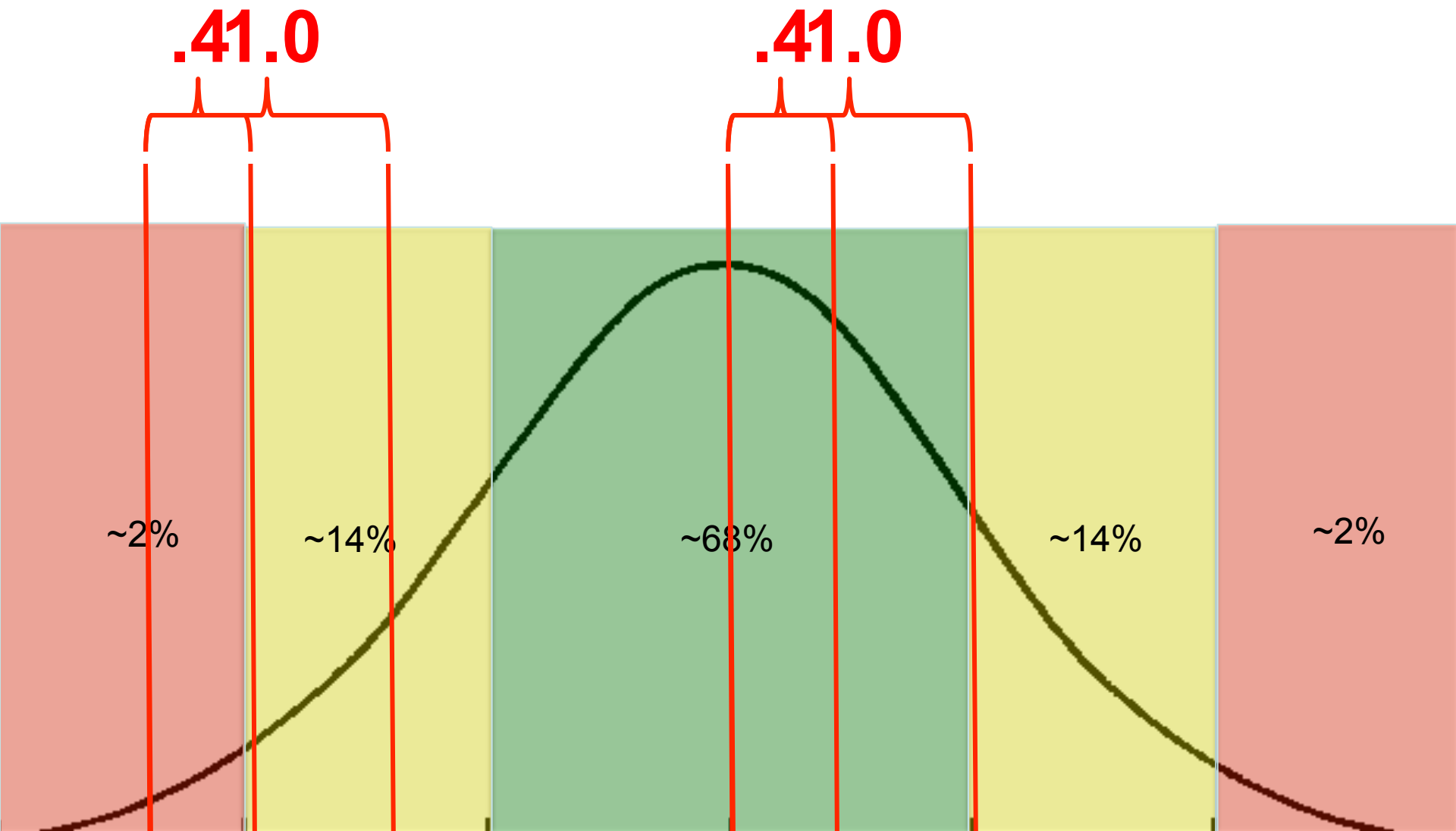
What is an Effective Teacher?

- Anyone can tell students something or tell them what to do
- A teacher creates a set of circumstances that increase the probability of the student being successful now and in the future

Instruction	Environment	Relationships
• Teacher facilitated • Direct and explicit • Authentic examples • Multiple opportunities • Engages students	• Arranges physical space • Develops routines • Develops Procedures • Consistent across time and students	• Communicates often • Conveys genuine interest in students • Maintains role of encouraging teacher

Probability

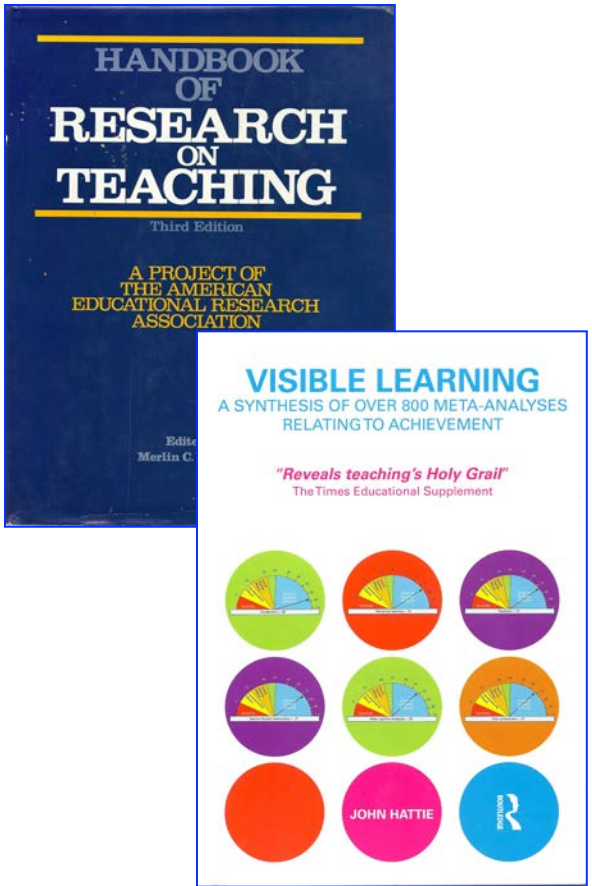
What Provides the Best Chances for Moving Snowballs to the Right?

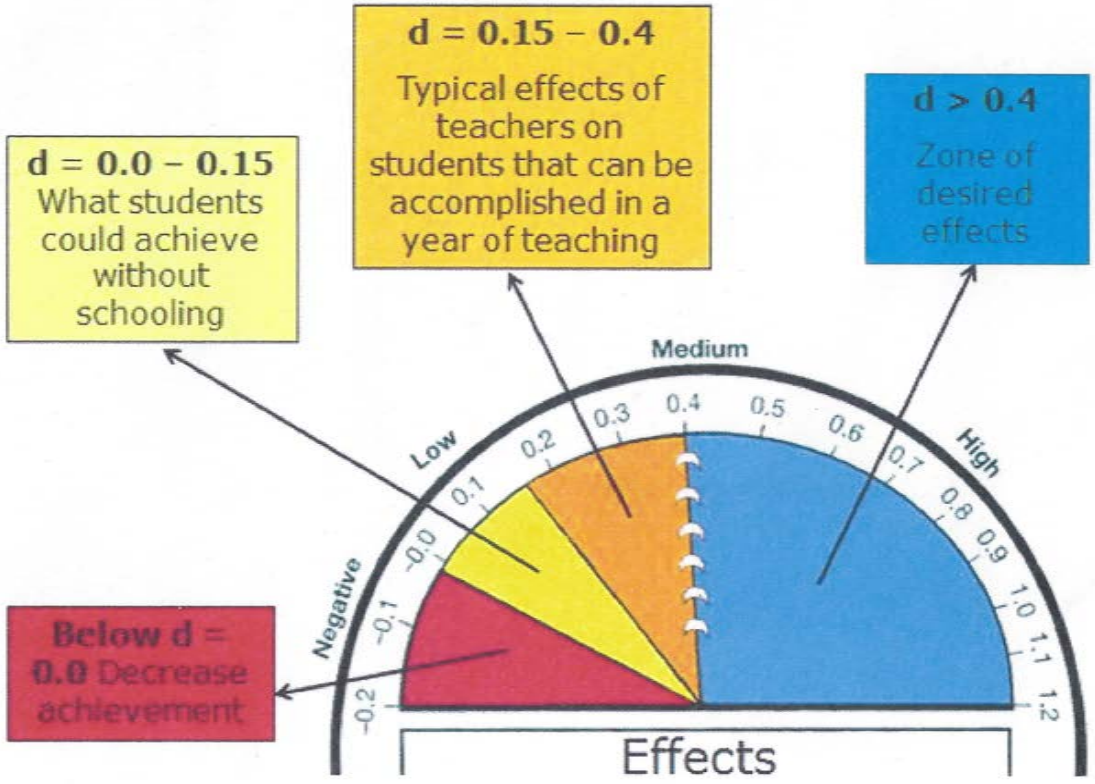


What Works?

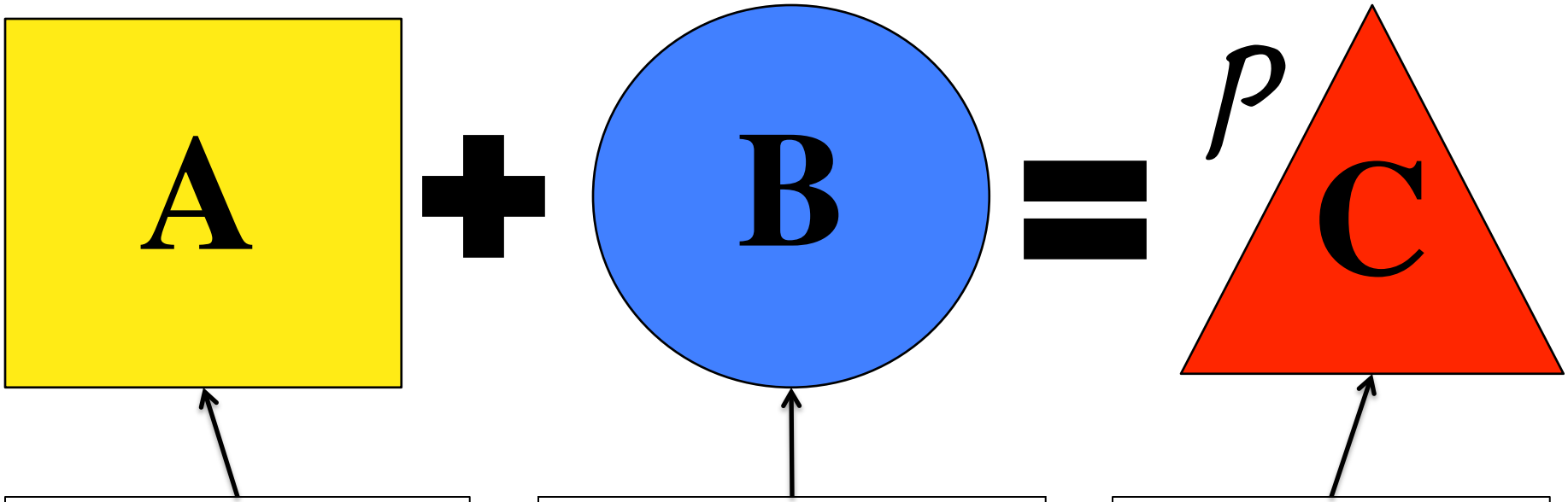
– Effective Classrooms Literature from 1970s
(e.g., Brophy, Good, Rosenshine, Berliner, et al)

– Meta-Analyses from past 15 years
(e.g., Hattie, Gottfredson, et al)





Logical Thinking: Probability Equation



Student Characteristics: skills, abilities, family/ culture, functional desires, academic history, school history

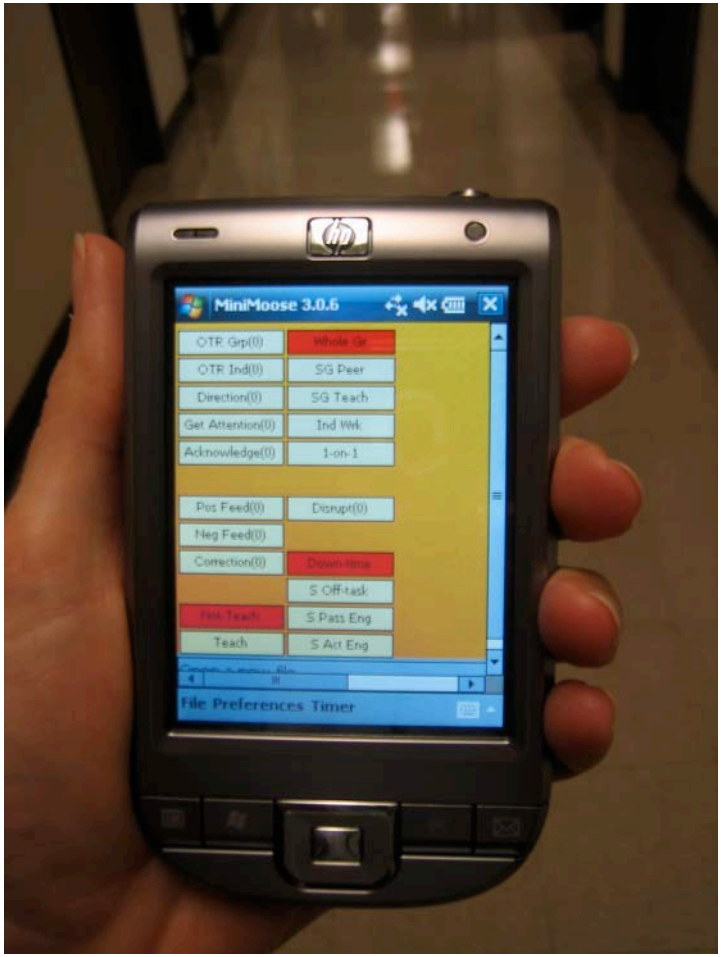
Teacher/School Control: curriculum (modeling, explicit, etc), engagement, expectations, environment (routines, consistency, physical arrangement, etc), time, feedback

Desired State: measureable skills that predict favorable student outcomes (academic and social behaviors)

To What Degree do Teachers Use High Probability Strategies?

Classroom Observations Study

- Observe how teachers and students interact during typical classroom instructional periods
- 15 minute observations of individual student in context of classroom
- Duration and frequency measures
- Look at descriptive stats, correlations, conditional probabilities, and higher level analyses



Interobserver Reliability

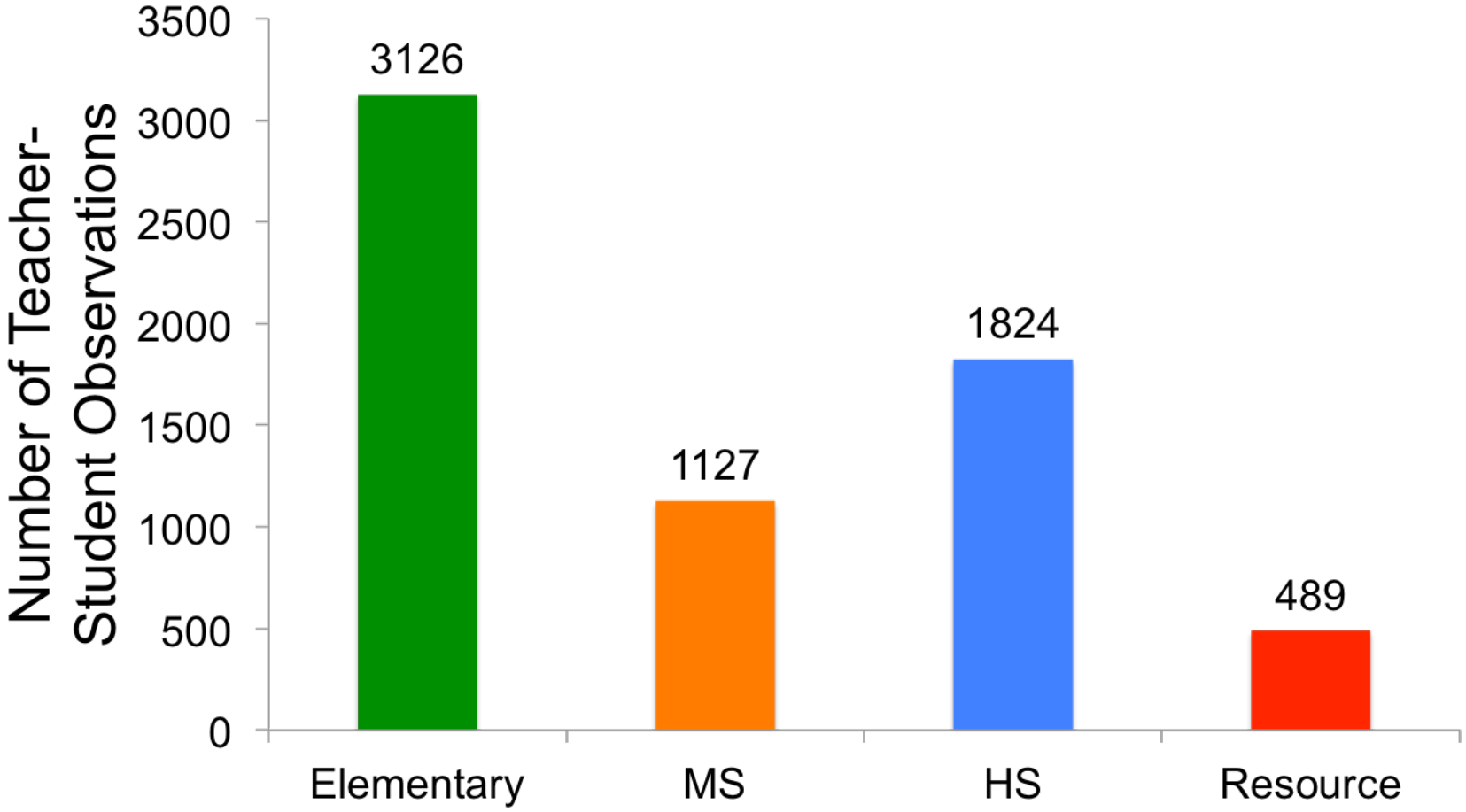
TOTAL .98

During 15% of 7000+ observations

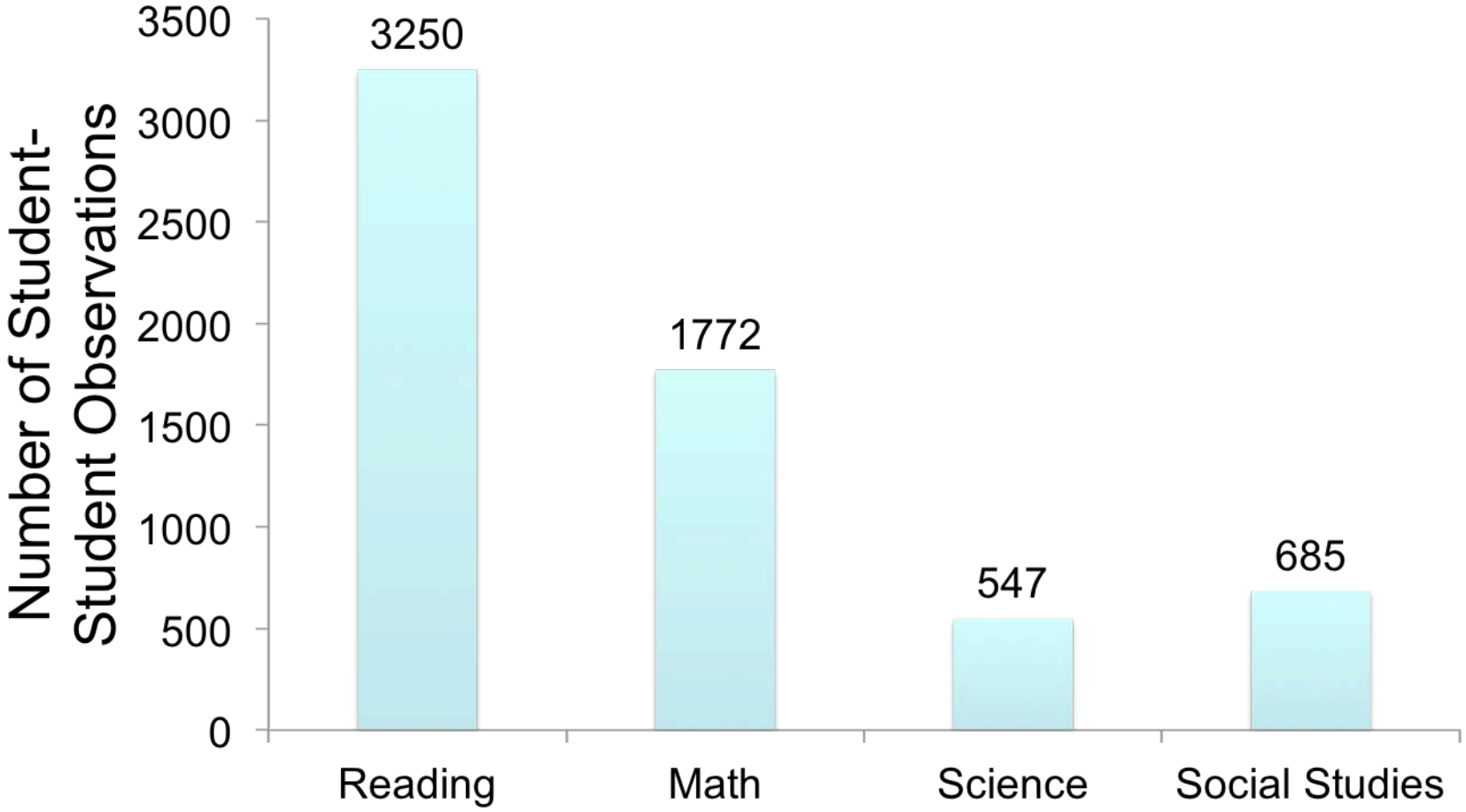
Teacher Behaviors				
Time Tchg	**OTR Grp**	**OTR Indiv**	**Pos Feedbk**	**Neg Feedbk**
.99	.93	.90	.88	.94

Student Behaviors			
Active Eng	**Passive Eng**	**Off Task**	**Disruptive**
.97	.98	.97	.94

Demographics – Grade Level

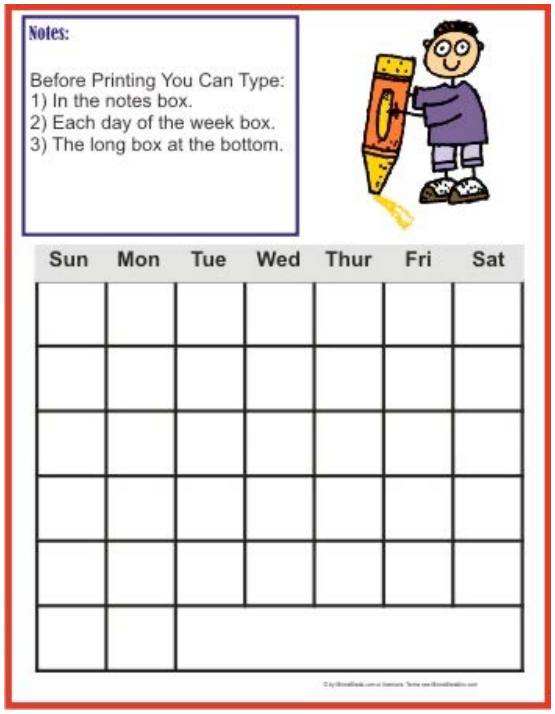


Demographics – Content



Classroom Concept #1

CREATE AN ENVIRONMENT THAT PREDICTS SUCCESS

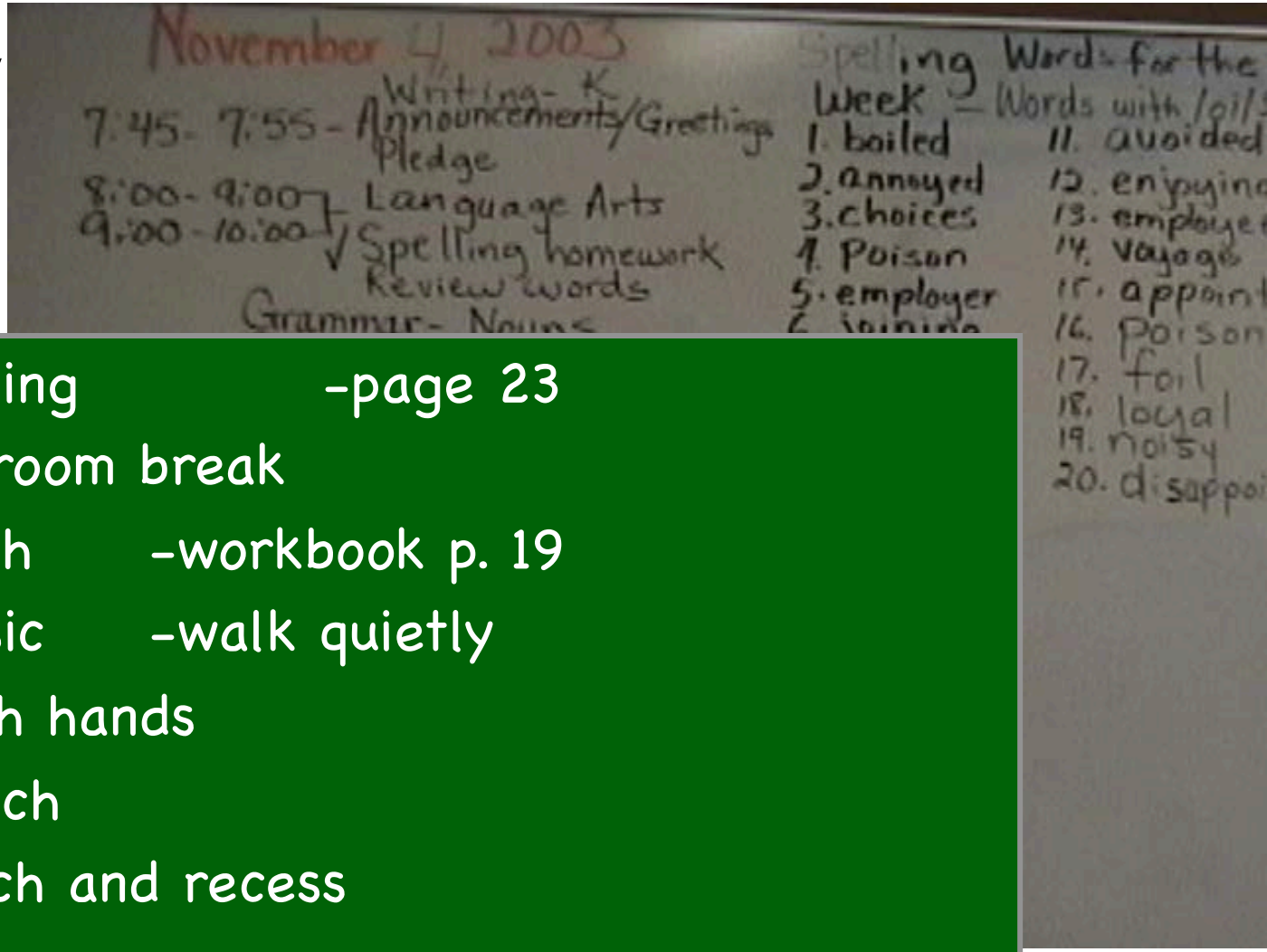


Schedule

- Consistency!!
- Expectations for arrival times
- Sequencing and length of activities
- Explaining changes

Advance Organizers

- Public display
- Consistency
- Prompts



9:00 - 9:30 spelling -page 23

9:30 - 9:40 restroom break

9:40 - 10:30 math -workbook p. 19

10:30 - 11:15 music -walk quietly

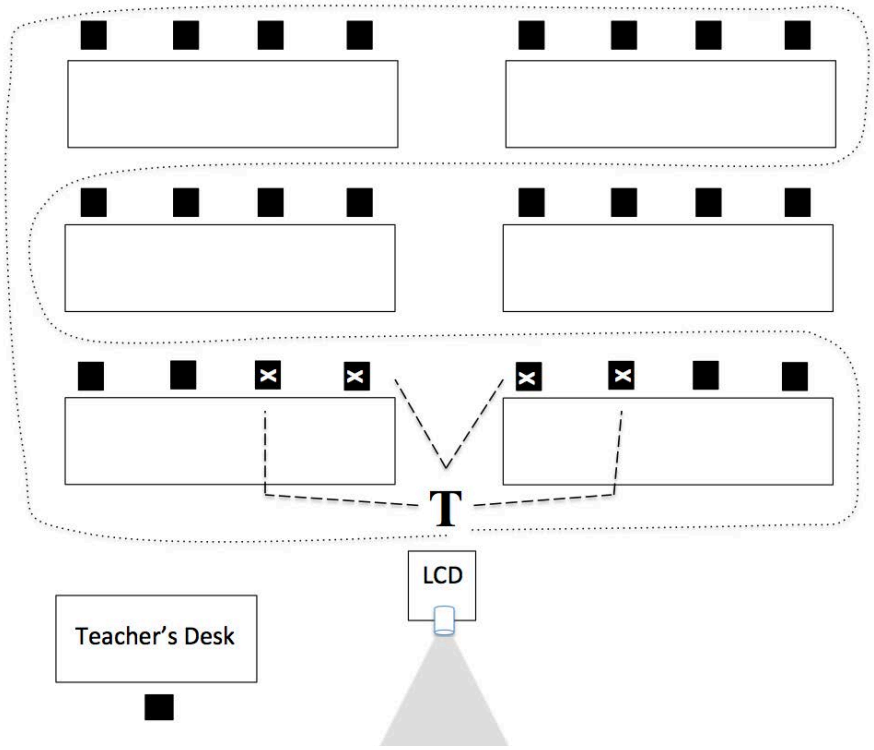
11:15 - 11:25 wash hands

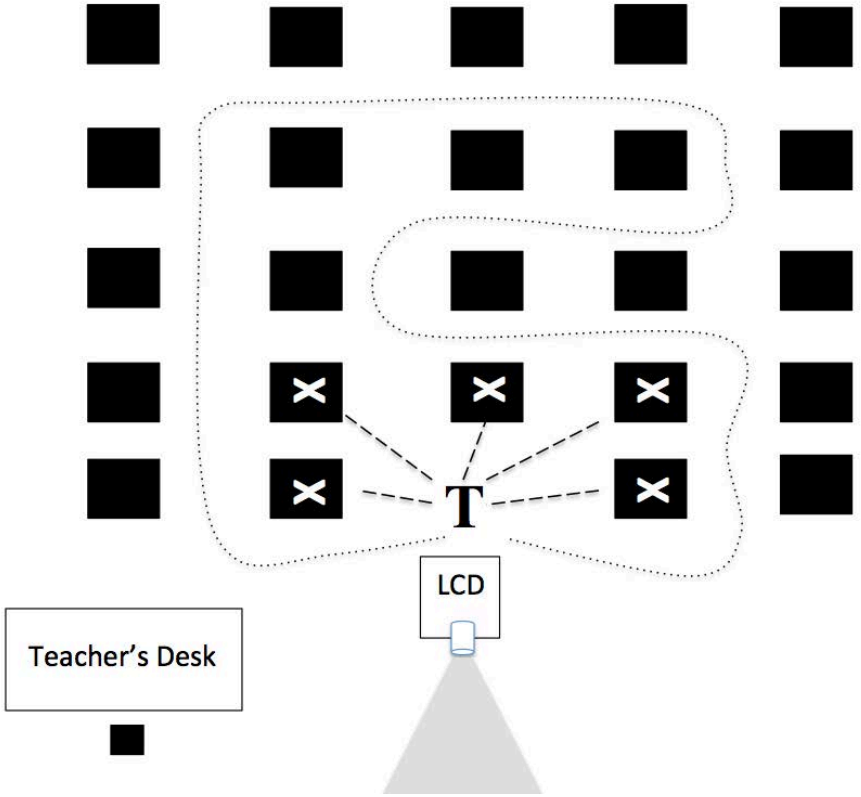
11:25 walk to lunch

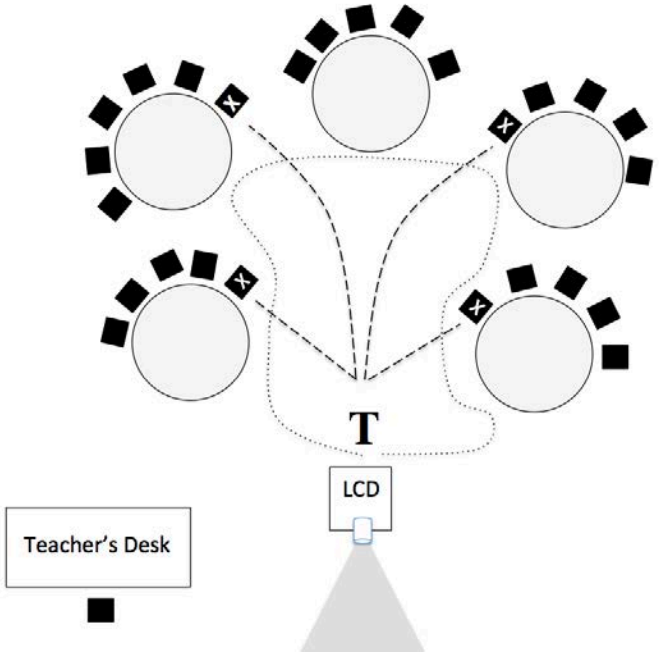
11:30 - 12:30 lunch and recess

Physical Arrangement

- Seating
  - Teacher's desk
  - Students' desks
- Sight lines
  - Teacher positions
- Traffic Flow
  - Associated activities
  - (e.g., pencil sharpening,
  - getting water, using the
  - bathroom, beginning and
  - end of day)





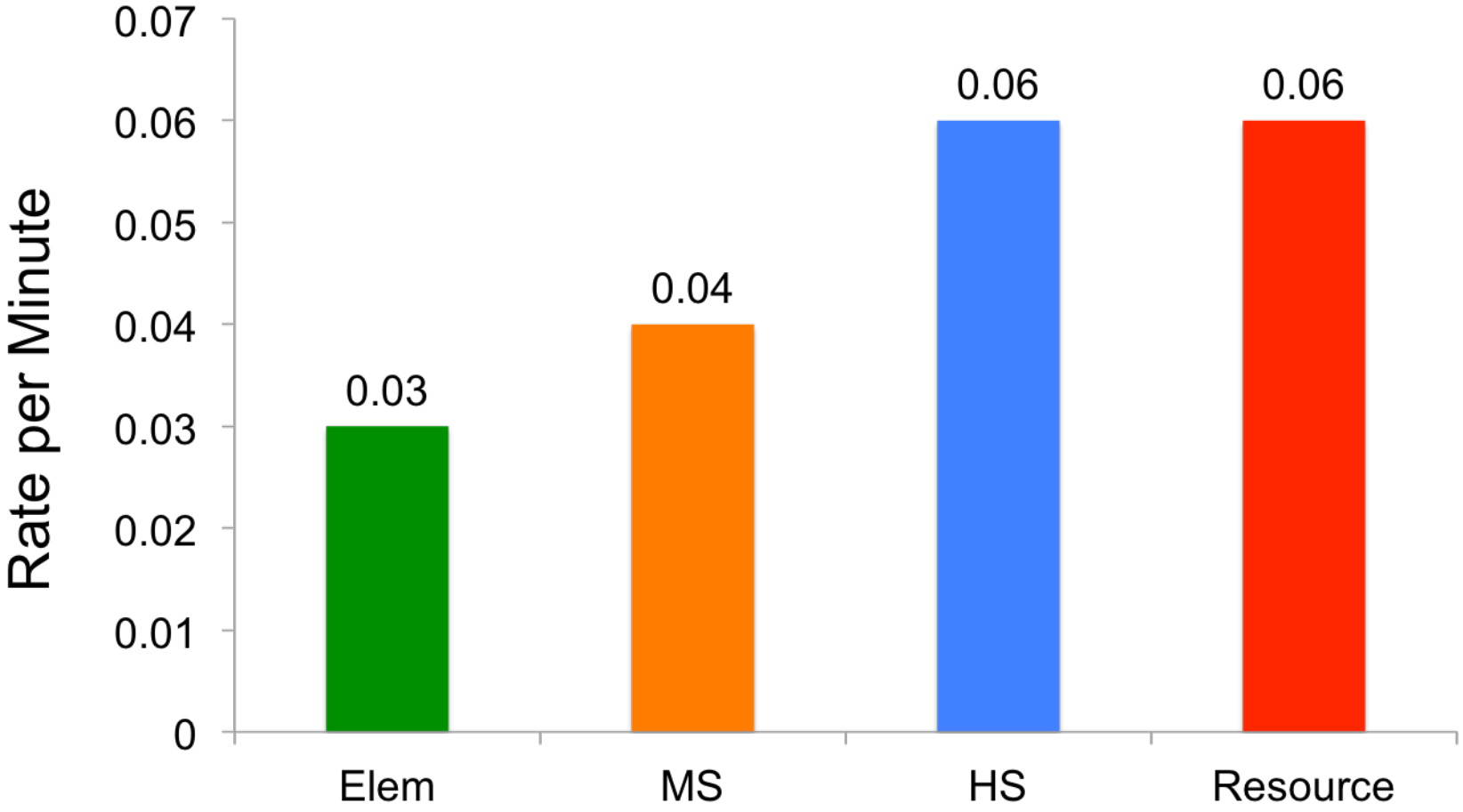


Proximity

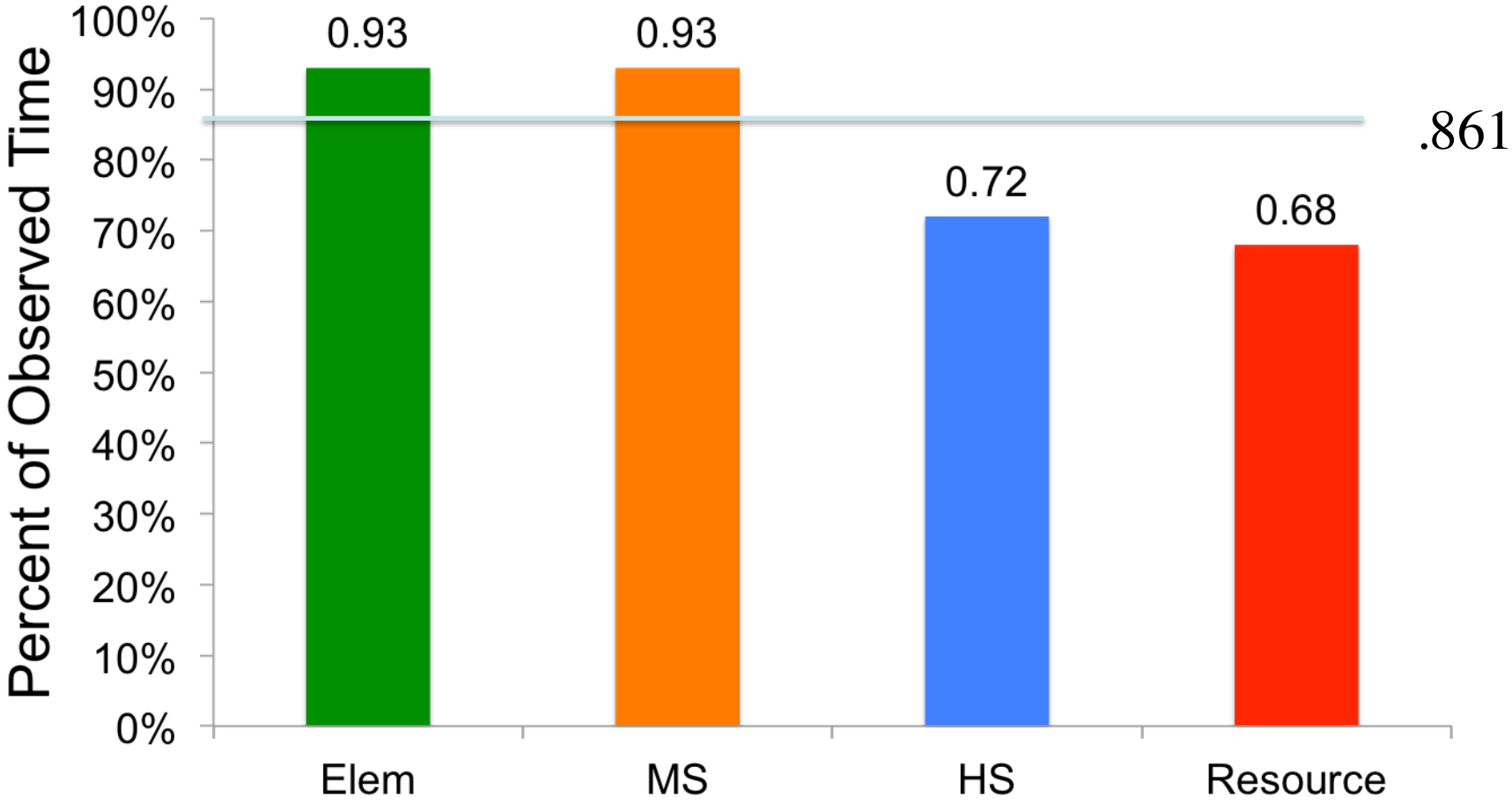
- Proactive Proximity
  - Movement about the room
  - 1-second rule
  - Assigned seating
- Reactive Proximity
  - Start with eye contact
  - Approach and eye contact
  - Hover and eye contact
  - Hover and question
    - *What should we be doing?*

Proximity

Down Time



Time Spent Teaching



Small Deficits Add Up Over Time

15 minutes X 4 = 1 hour

1 hour X 5 = day

1 day X 20 = 1 month

1 month X 9 = 1 school year

2013-2014

JULY 2013

S	M	T	W	T	F	S
	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			

AUGUST 2013

S	M	T	W	T	F	S
				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

SEPTEMBER 2013

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22	23	24	25	26	27	28
29	30					

OCTOBER 2013

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27	28	29	30	31		

NOVEMBER 2013

S	M	T	W	T	F	S
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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

DECEMBER 2013

S	M	T	W	T	F	S
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				

JANUARY 2014

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
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26	27	28	29	30	31	

FEBRUARY 2014

S	M	T	W	T	F	S
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23	24	25	26	27	28	

MARCH 2014

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16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

APRIL 2014

S	M	T	W	T	F	S
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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

MAY 2014

S	M	T	W	T	F	S
				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

JUNE 2014

S	M	T	W	T	F	S
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					

Extrapolating Across the School Year

Teaching

Assuming 5 hour school day, 20 day school month, and 180 day school year

Not teaching = wasted instructional time	% of 15 min "Not Teaching"	*Instruction Time Not Used (no teaching or monitoring)*			
		Per Hour	Per Day	Per Month	Per Year
Elementary	10%	6 min	30 min	2 days	18 days
Middle School	10%	6 min	30min	2 days	18 days
High School	28%	16.8 min	1.40 hours	5.6 days	2.4 months

Definition of Not Teaching:

Teacher is not engaging students and is involved in independent task with no interactions with student.

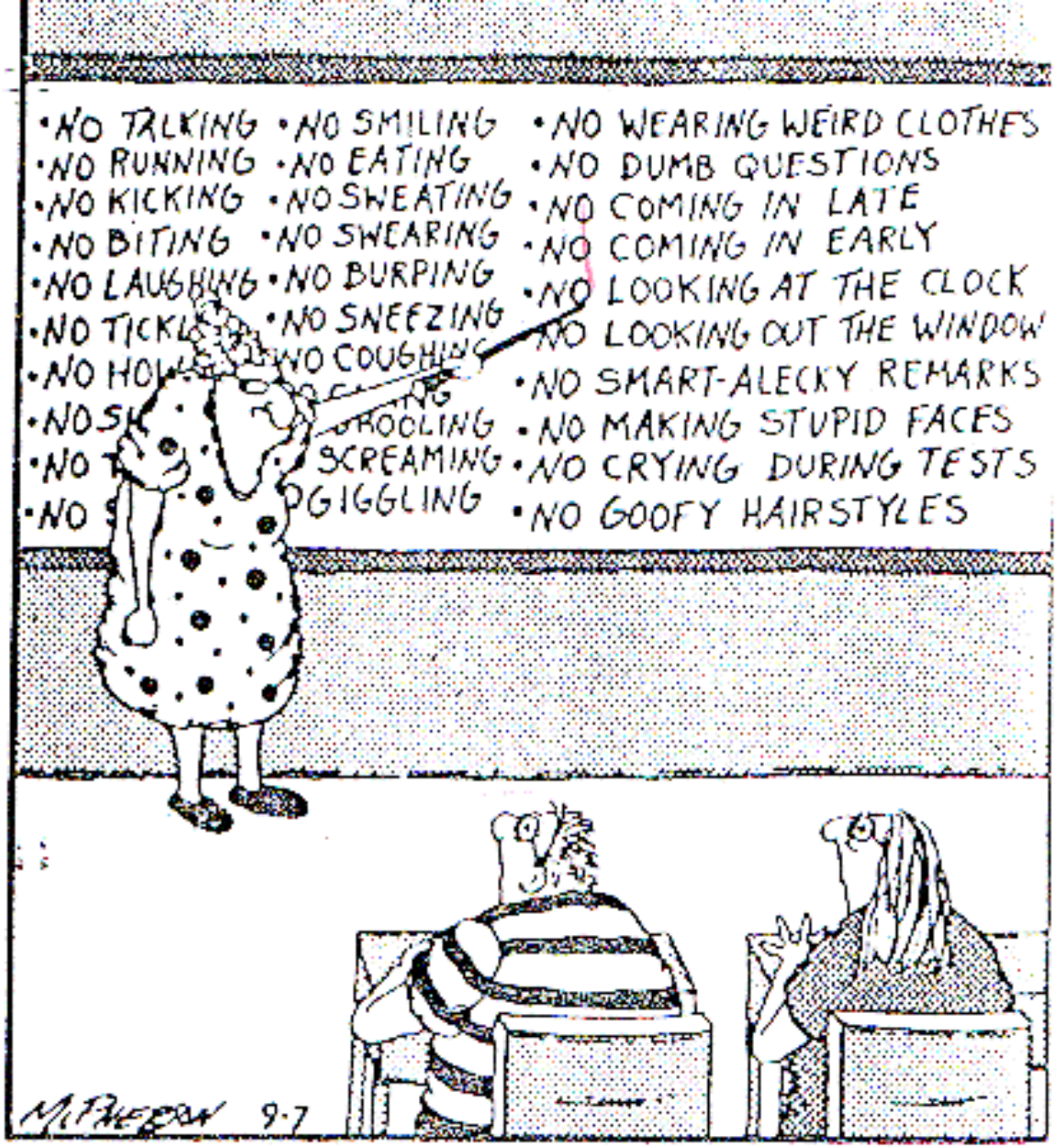
Classroom Concept #2

TEACH: BE DIRECT AND EXPLICIT

WHEN PRESENTING INSTRUCTION – DON'T ASSUME

*In*effective Instruction

- Sets the occasion for student failure

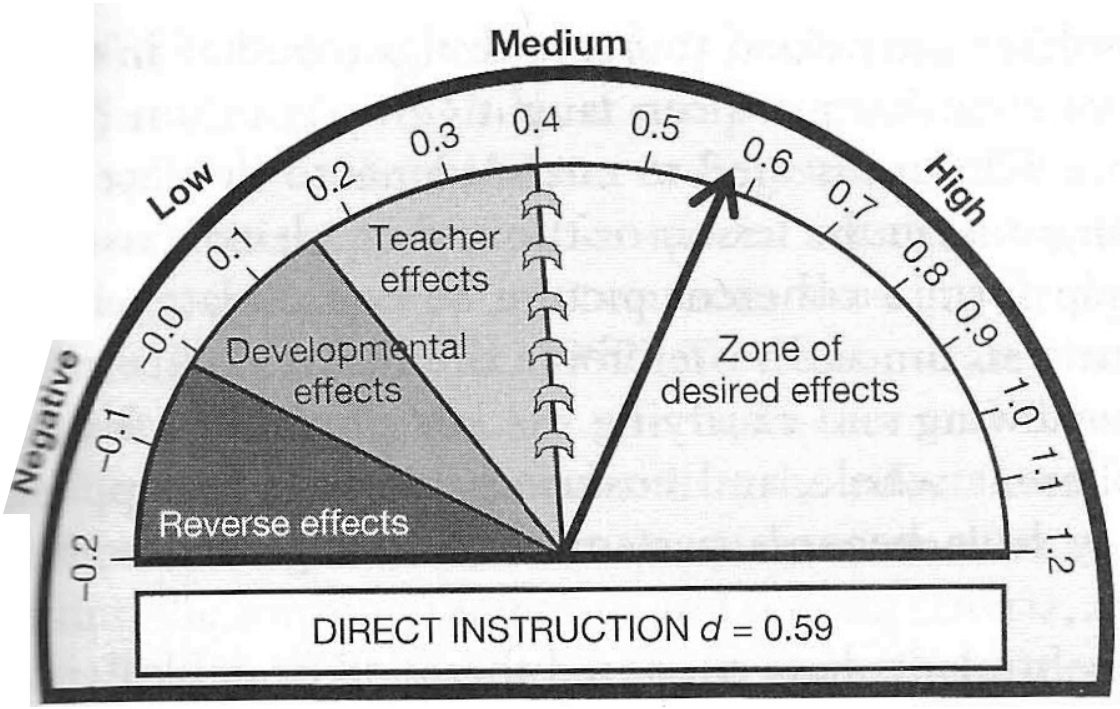


Miss Bence liked to go over a few of her rules on the first day of school.

Effect Size

Direct Instruction

Direct Instruction involves: (1) teacher consideration of what is necessary to facilitate success with learning of the skills being taught, (2) teacher responsibility for delivery and control of lesson to maximize success, (3) high levels of engagement and feedback with the student getting multiple opportunities to practice success



KEY	
Standard error	0.096 (High)
Rank	26th
Number of meta-analyses	4
Number of studies	304
Number of effects	597
Number of people (1)	42,618

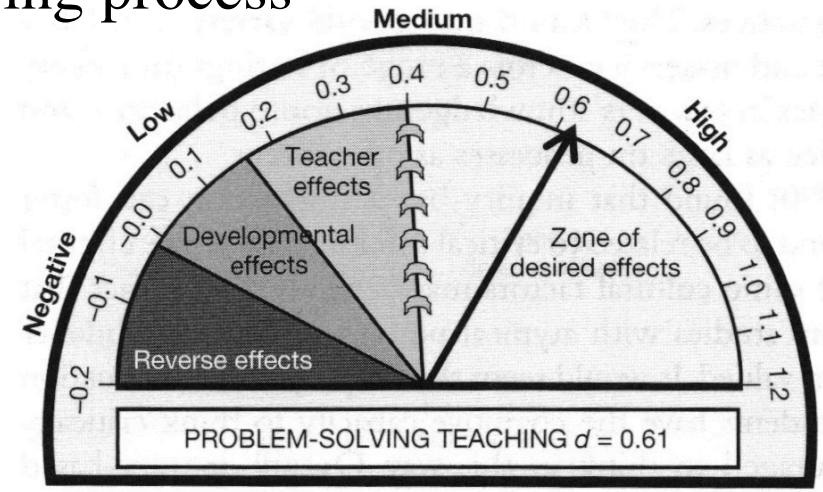
Be Physically and Verbally Explicit

- Tell the student exactly what the rule is
- Show them while talking about it
- Engage students
- Ask questions

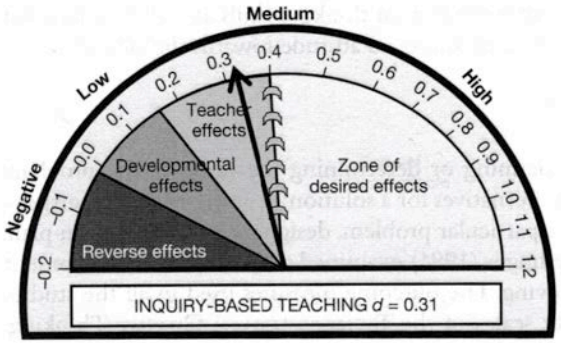
Effect Size

Inquiry vs. Problem-Solving

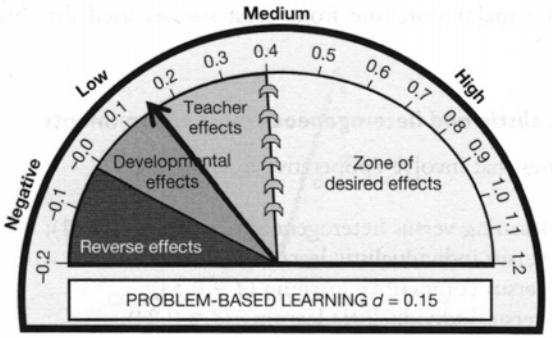
Instruction wherein the students solve without teacher instruction to lead do not have effects as strong as teacher instruction of problem solving process



KEY	
Standard error	0.076 (Medium)
Rank	20th
Number of meta-analyses	6
Number of studies	221
Number of effects	719
Number of people (3)	15,235



KEY	
Standard error	0.092 (High)
Rank	86th
Number of meta-analyses	4
Number of studies	205
Number of effects	420
Number of people (1)	7,437



KEY	
Standard error	0.085 (High)
Rank	118th
Number of meta-analyses	8
Number of studies	285
Number of effects	546
Number of people (4)	38,090

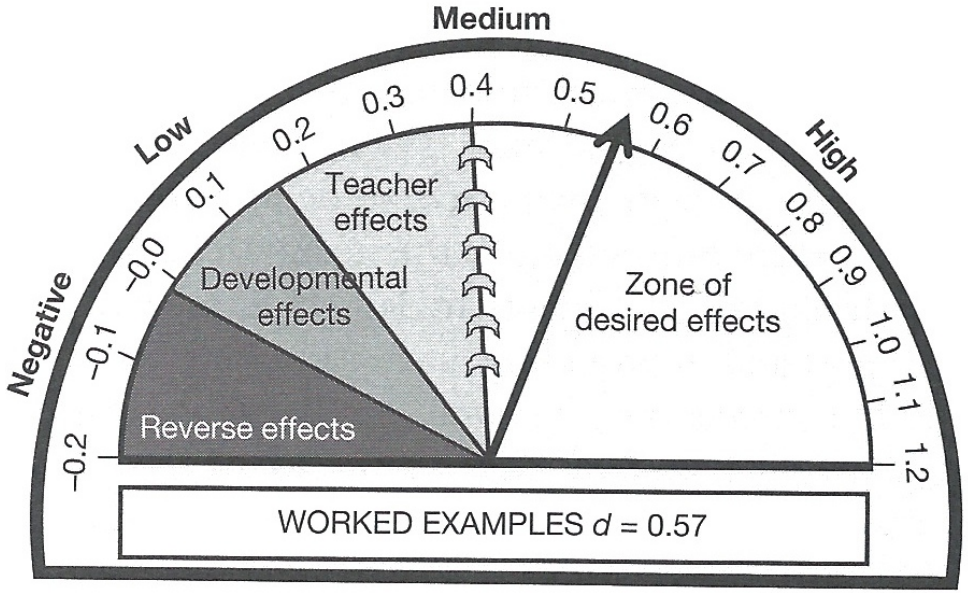
Instructional Concept #3

SHOW STUDENTS, ASK FOR ACTION, & GUIDE PRACTICE TO FACILITATE HIGH RATES OF SUCCESS

Effect Size

Modeling

Teacher modeling is an essential component of effective instruction -- show them how, then when and when not to



KEY	
Standard error	0.042 (Medium)
Rank	30th
Number of meta-analyses	1
Number of studies	62
Number of effects	151
Number of people (1)	3,324

Model Behavior

Modeling & Prompting

- Modeling
  - Show how and describe why
  - Think aloud
- Verbal Prompts
  - Clear statements that act as reminders
  - Delivered in contexts where failure is predictable
- Pre-Correction
  - Student is required to respond
  - Teacher praises or corrects student response

"What will you do if you need my help?"

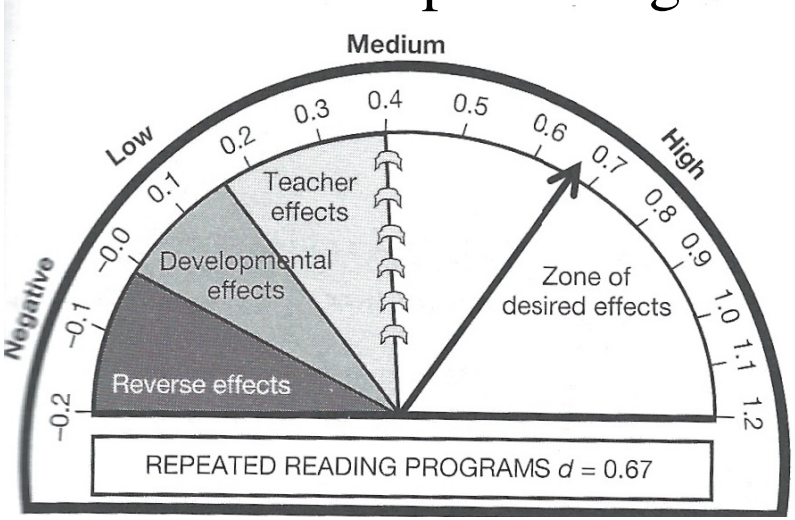
"Raise my hand."

"Exactly, good for you!"

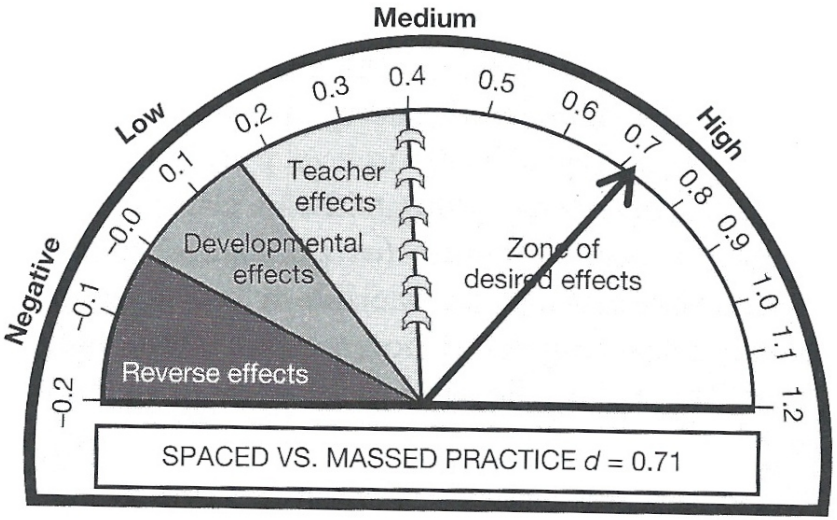
Effect Size

Fluency Building

Strategies that build fluency through repetition have strong effects in terms of predicting student success



KEY	
Standard error	0.080 (High)
Rank	16th
Number of meta-analyses	2
Number of studies	54
Number of effects	156
Number of people (0)	na



KEY	
Standard error	na
Rank	12th
Number of meta-analyses	2
Number of studies	63
Number of effects	112
Number of people (0)	na

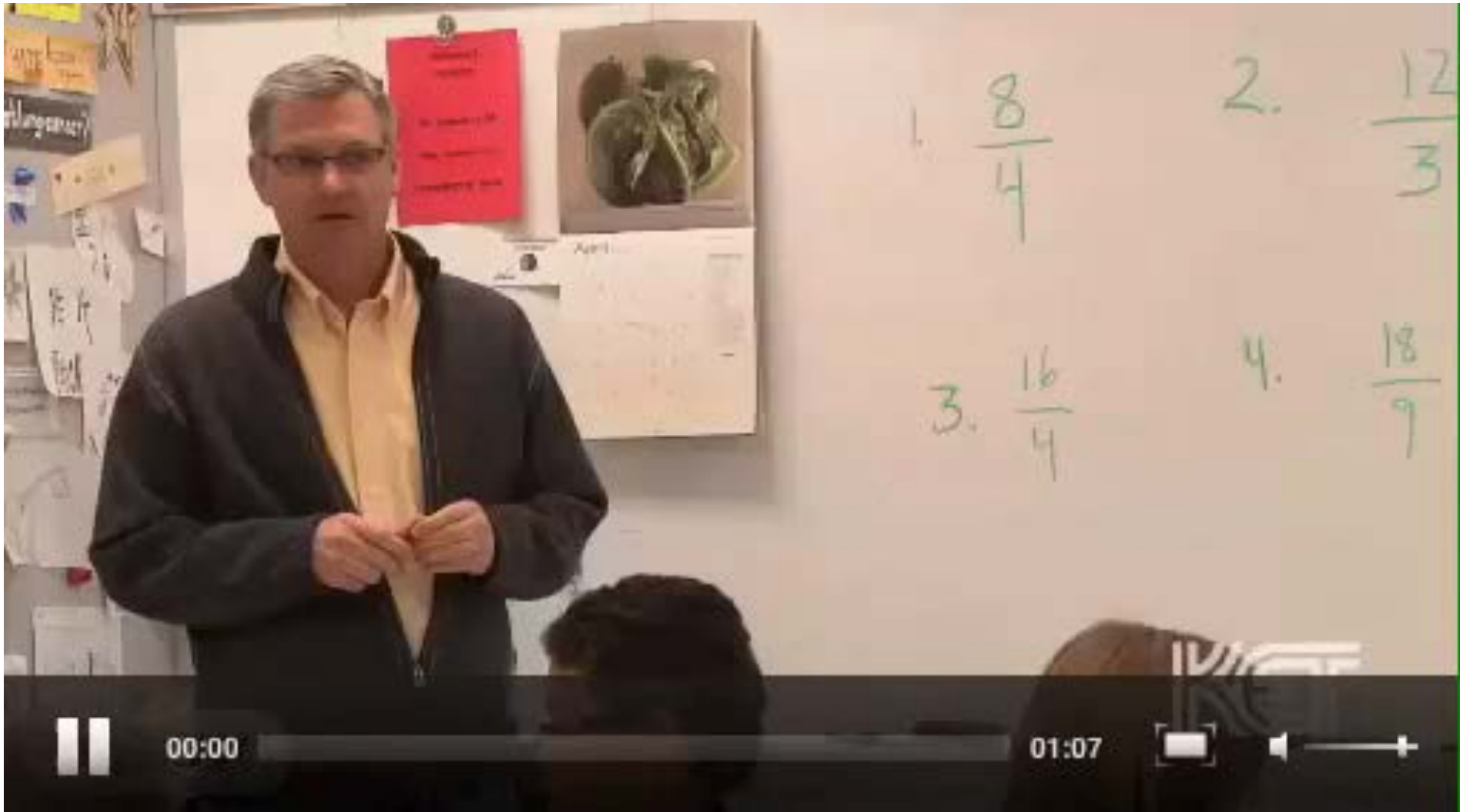
Engagement

Teachers create engagement through teaching

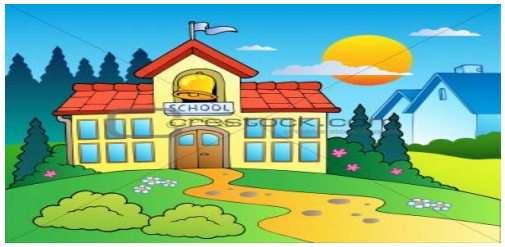
- **Opportunities to Respond**
  - Group (choral) or individual responses
  - Closed or open ended questions
  - Raise hand to indicate agreement
  - Create and share
  - Demonstrate

- **Active Attention Recruitment**
  - Connect to student lives
  - Personal storied
  - Genuine interest and encouragement

Variable Modes of OTR



Rural Poverty Schools and Effective Instruction



22 Elementary Schools

All Rural

All Title One Eligible

11 Highest State Achievement **11 Lowest State Achievement**

	τ_{00} Between-school variance	σ^2 Within-school variance	$\tau_{00}/(\tau_{00}+\sigma^2)$ ICC	Reliability estimate
Group OTR	0.033***	0.603	0.051	.557
Individual OTR	0.001	0.134	0.009	.182
Positive feedback	0.000	0.028	0.008	.16
Negative feedback	0.000**	0.004	0.033	.443

Note. ICC = Intraclass Correlation Coefficient.
*$p < .05$. **$p < .01$. ***$p < .001$.

- Group OTR predictive of academic achievement
- Negative Feedback predictive of school suspension
- Differences across schools are at the teacher level

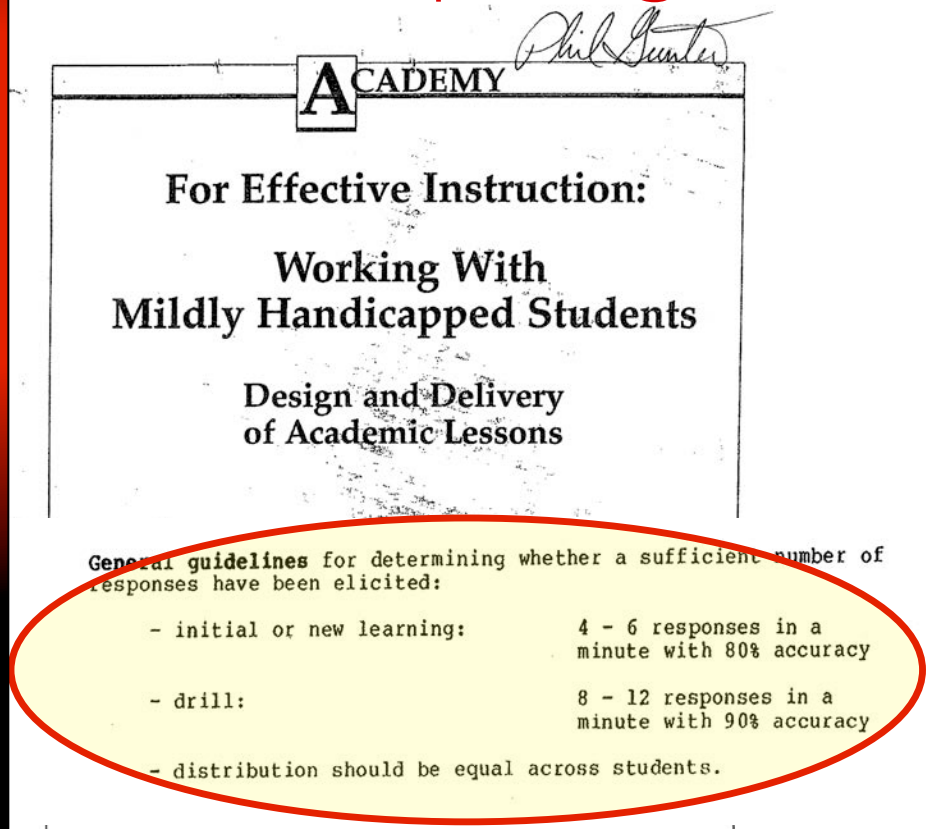
(Hirn, Hollo, & Scott, in review)

Recommended Practice: OTR

- CEC (1987)

Acquisition 4-6 per min @ 80%

Drill 8-12 per min @ 90%



ACADEMY

For Effective Instruction:

Working With
Mildly Handicapped Students

Design and Delivery
of Academic Lessons

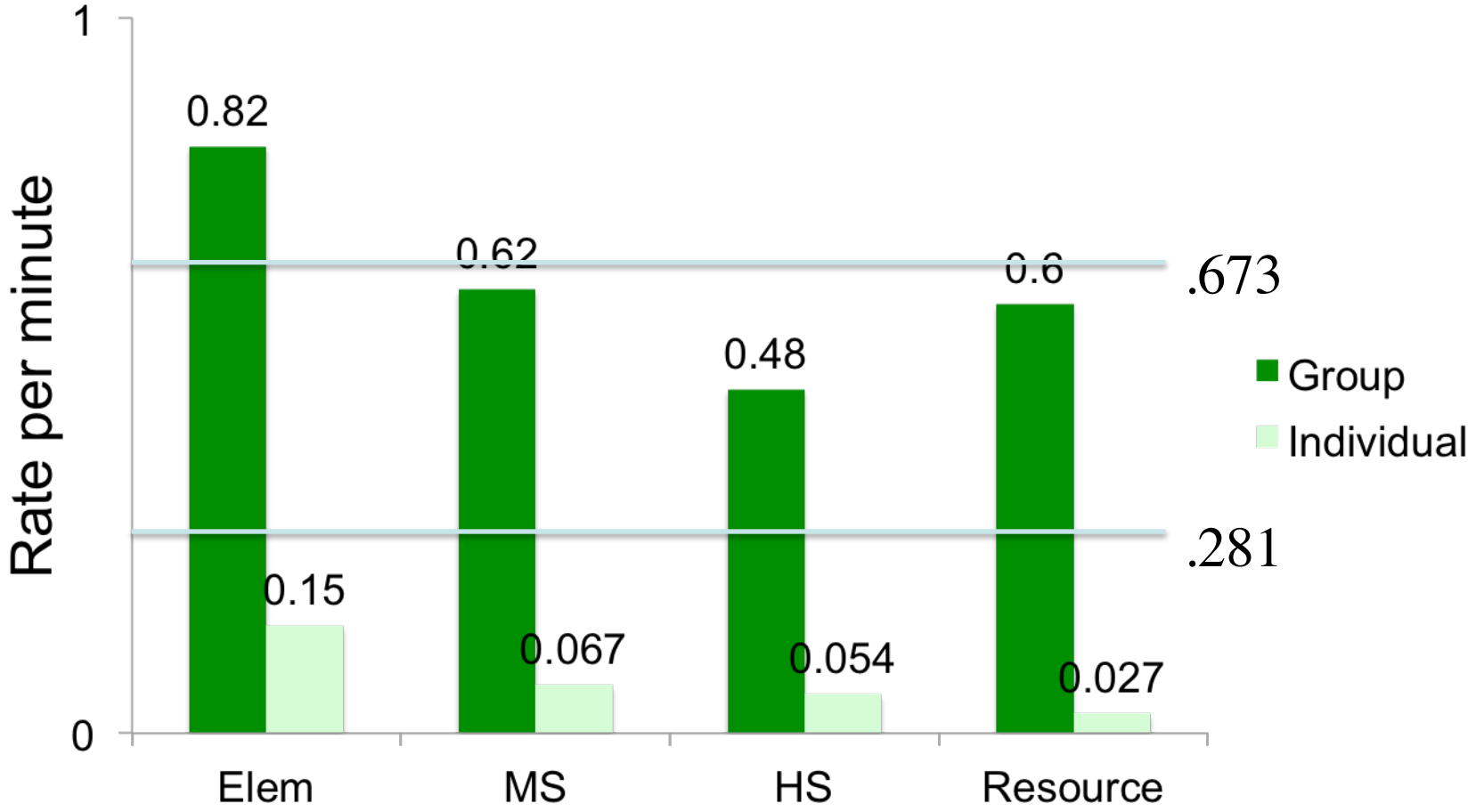
General guidelines for determining whether a sufficient number of responses have been elicited:

- initial or new learning: 4 - 6 responses in a minute with 80% accuracy
- drill: 8 - 12 responses in a minute with 90% accuracy
- distribution should be equal across students.

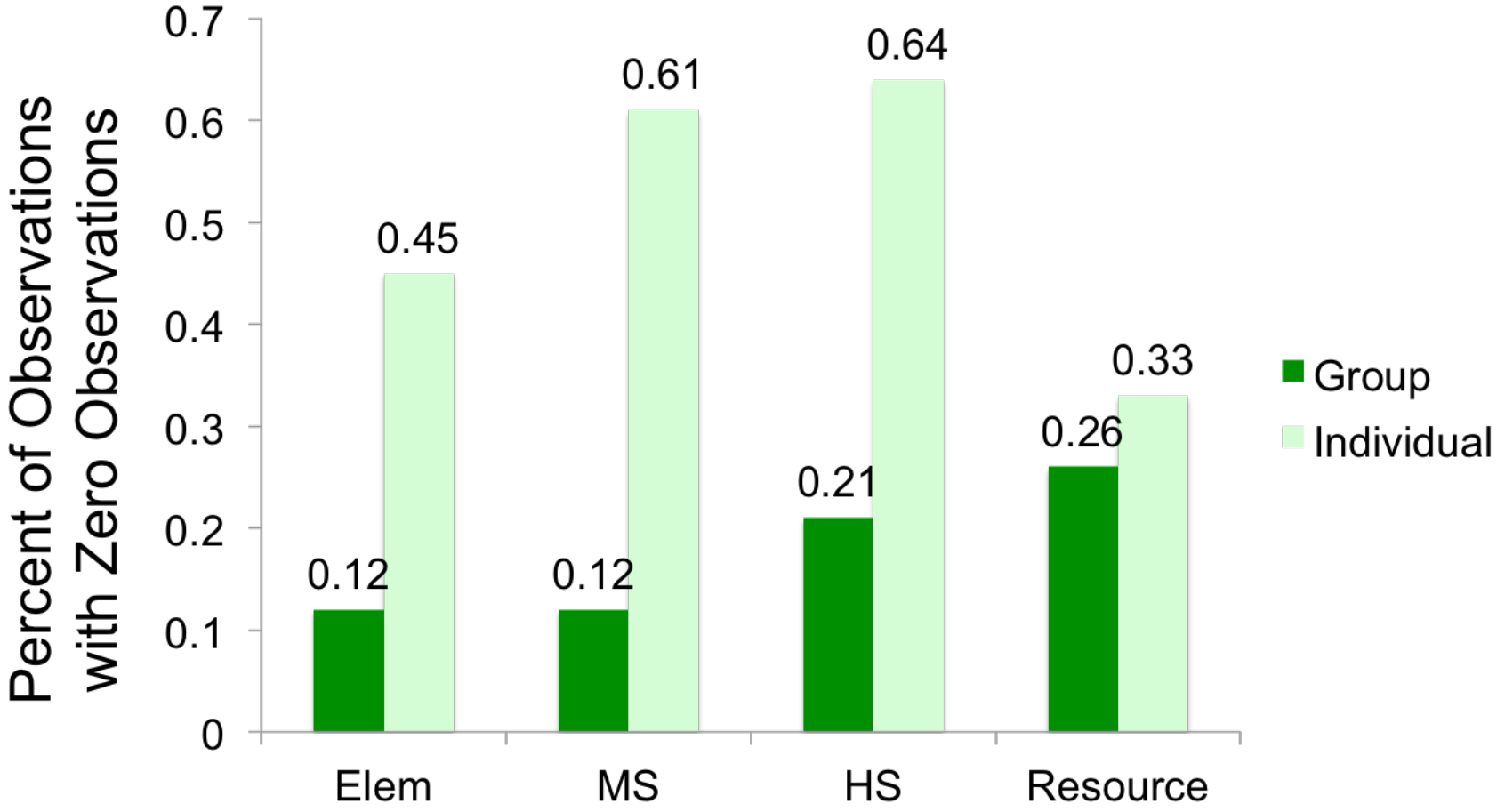
- See positive effects on student engagement at 3 per minute
- If student responds

(Haydon, Mancil, & Van Loan, 2009; Partin, Robertson, Maggin, Oliver & Wehby , 2010; Sutherland, Alder & Gunter, 2003)

Opportunities to Respond

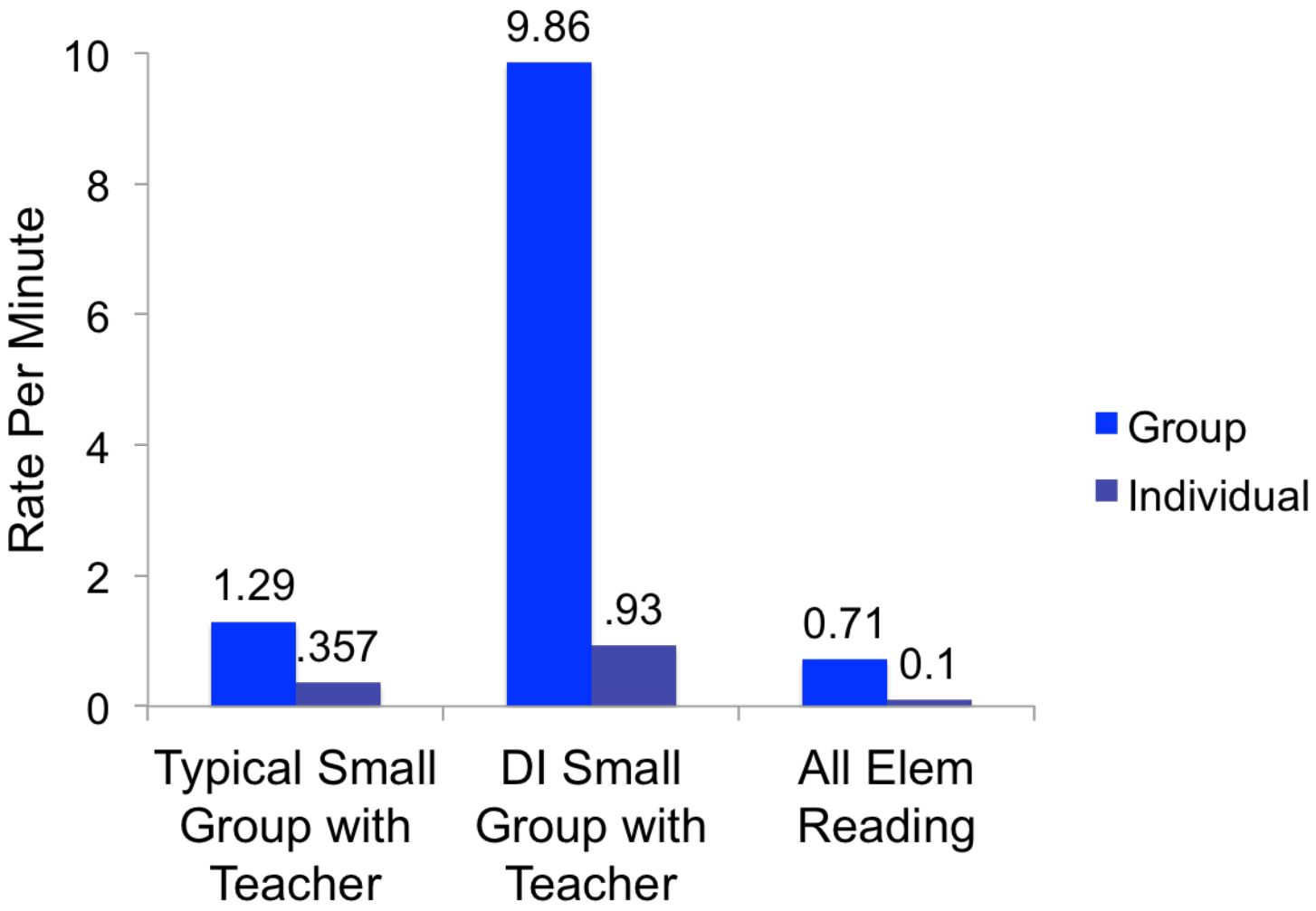


OTR – Zero Rates



Opportunities to Respond

Comparison: Typical & DI



Extrapolating Across the School Year

OTR

Assuming 5 hour school day, 20 day school month, and 180 day school year

Minimum Recommended Rate = 3 per min	OTR Rate per min			*Number of OTRs Below Minimum Recommended Rate*				
	Grp.	Ind.	Total	Per min	Per Hour	Per Day	Per Month	Per Year
Elementary	.82	.15	.97	-2.03	-121.8	-609	-12,180	-109,620
Middle School	.62	.06	.68	-2.32	-139.2	-696	-13,920	-125,280
High School	.48	.05	.53	-2.47	-148.2	-741	-14,820	-133,380

Definition of OTR (group and individual):

Teacher provides a curriculum relevant opportunity to respond that is that is directed to the individual or to the whole class or small group that includes the target student. Must be instruction related and not a social question, a question

Recommended Practice: Feedback

- The field at large recommends somewhere between 3 and 6 positive to every 1 negative

  (Gable, Hester, Rock, & Hughes, 2009; Kerr & Nelson, 2006; Nafpaktitis, Mayer, & Butterworth, 1985; Scott, Anderson, & Alter, 2011; Stichter et al., 2009; Walker, Ramsey, & Gresham, 2004)

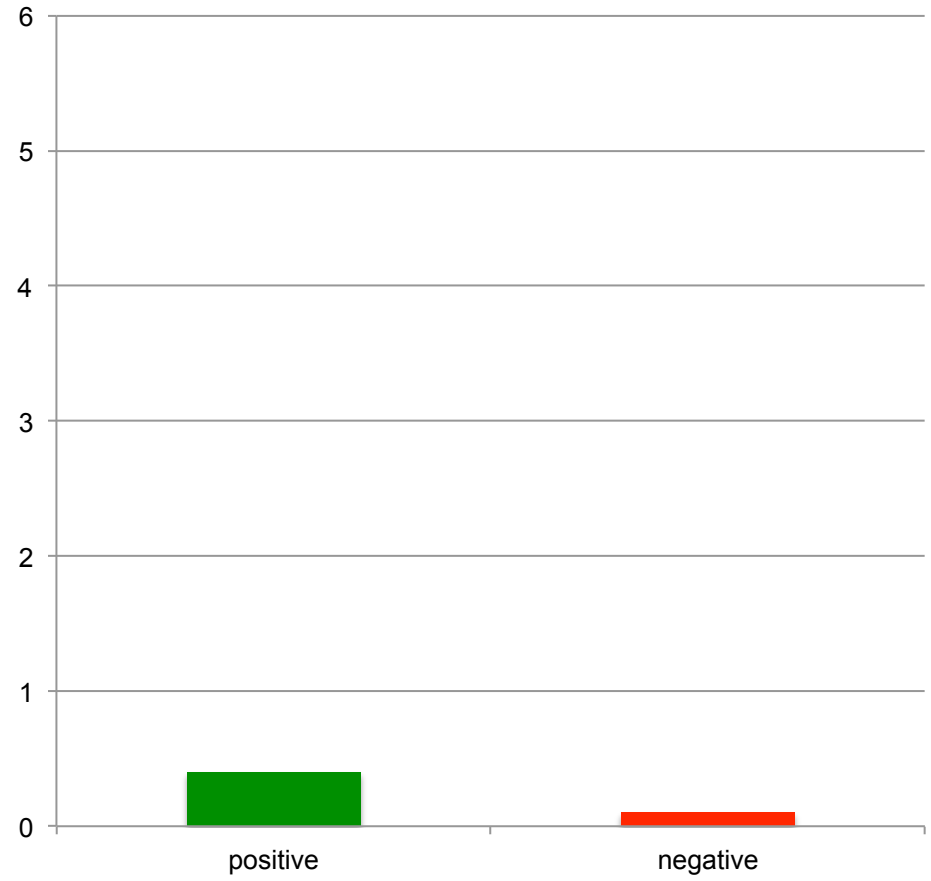
- Mental health (Fredrickson & Losada, 2005)
  - 2.5 : 1 predicts normal functioning
  - 4.3 : 1 predicts optimal functioning
  - Tipping point seems to be 2.9 : 1
- Marriage (Gottman, 1994)
  - Flourishing marriage 4.7:1 actions; 5.1:1 speech
  - Poor marriage .7:1 actions; .9:1 speech

4:1 ?

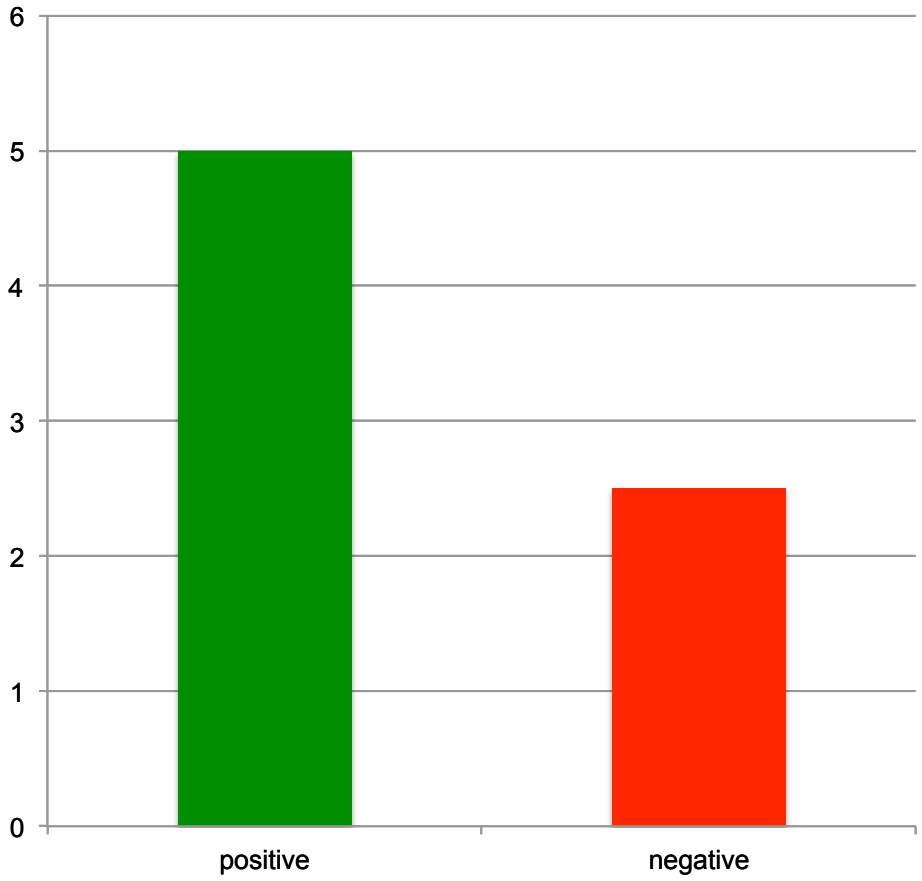
What About Frequency?

Which rate per/min ratio would you rather have in a Classroom?

4 : 1



2 : 1



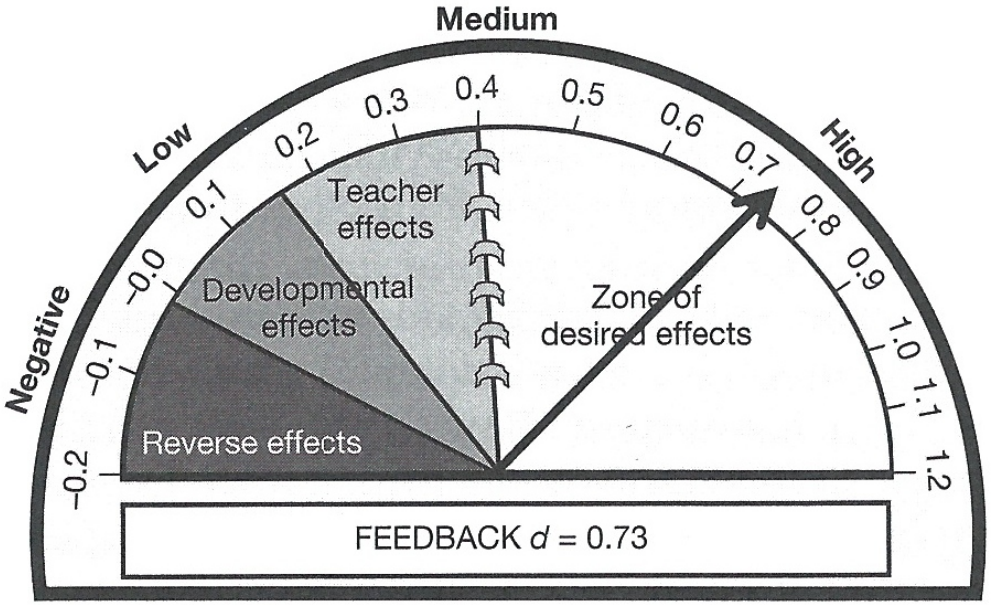
Classroom Concept #4

PROVIDE STUDENTS WITH REGULAR FEEDBACK ON THEIR PERFORMANCE

Effect Size

Feedback

Simple feedback on performance – formative and summative – is one of the most effective components of instruction



KEY	
Standard error	0.061 (Medium)
Rank	10th
Number of meta-analyses	23
Number of studies	1,287
Number of effects	2,050
Number of people (10)	67,931

Acknowledgement!

Big Idea: Students need feedback to know whether they are right or wrong – teachers must provide it

Acknowledge Success

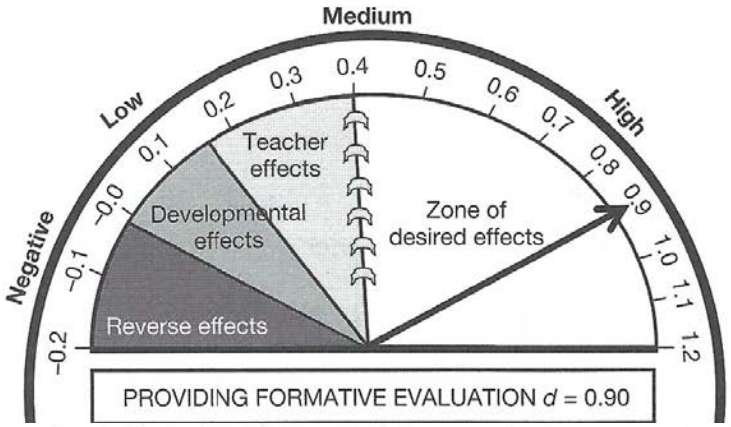
- Level 1: Verbal Praise
  - Age appropriate
    - "thanks" "I appreciate" "I'm impressed" etc.
  - Delivered with specificity "you did XX correctly"
  - Mix up use of superlatives
    - Exactly, super, awesome, perfect, thank you, etc



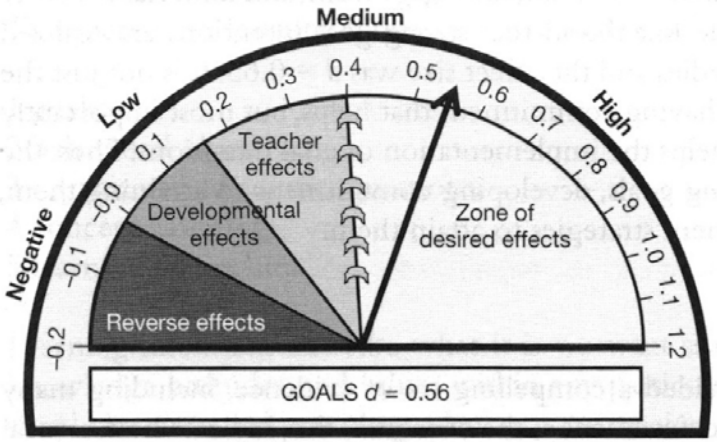
Effect Size

Assessment and Goal Setting

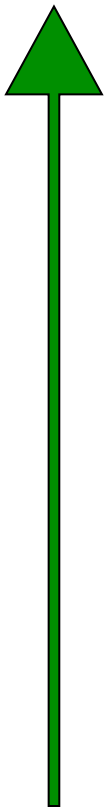
Frequent formative assessment based on instruction (CBA) with attention to student goal-setting has strong effects



KEY	
Standard error	0.079 (Medium)
Rank	3rd
Number of meta-analyses	2
Number of studies	30
Number of effects	78
Number of people (1)	3,835



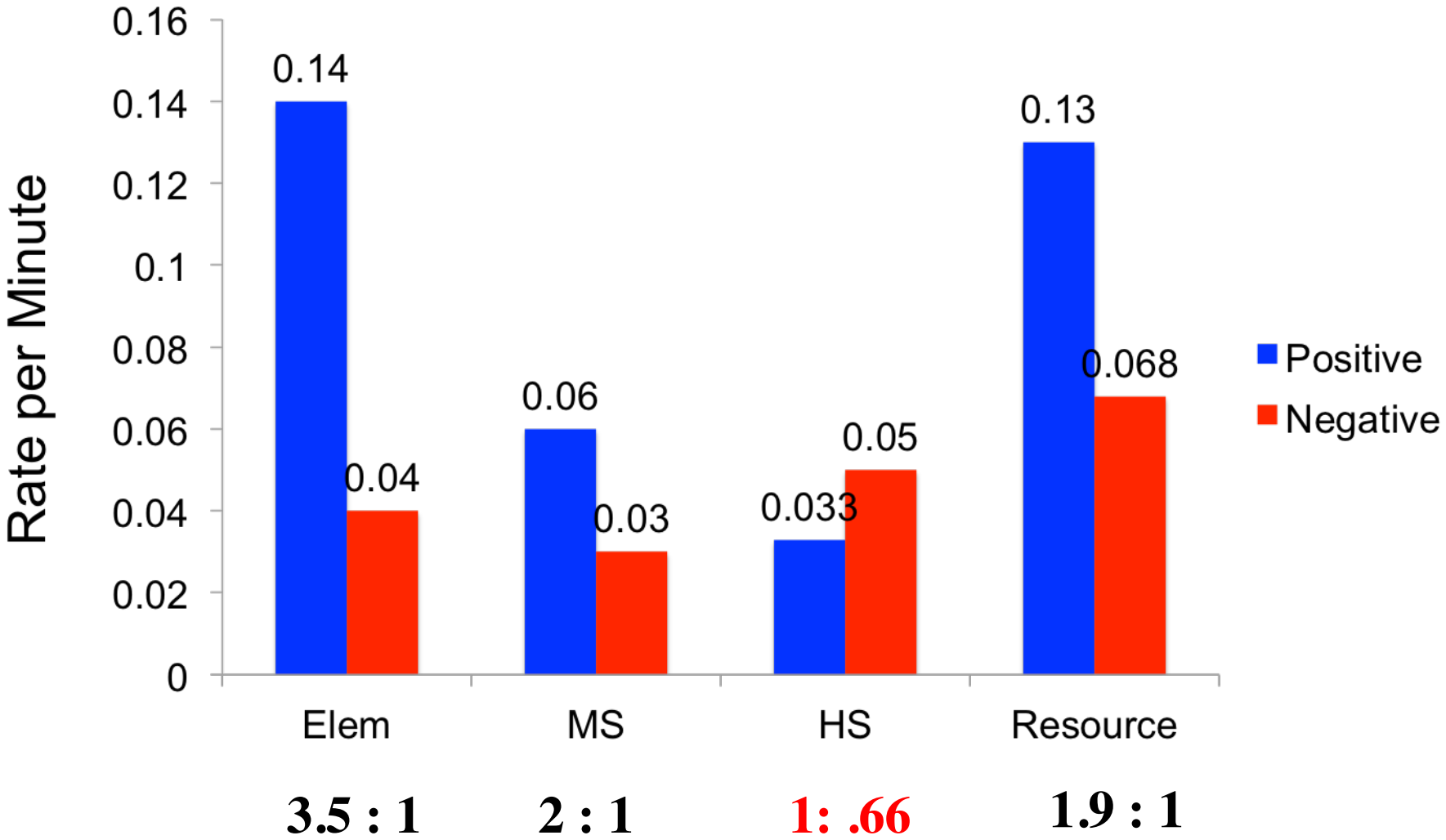
KEY	
Standard error	0.057 (Medium)
Rank	34th
Number of meta-analyses	11
Number of studies	604
Number of effects	820
Number of people (7)	41,342



Acknowledge Errors with Correction

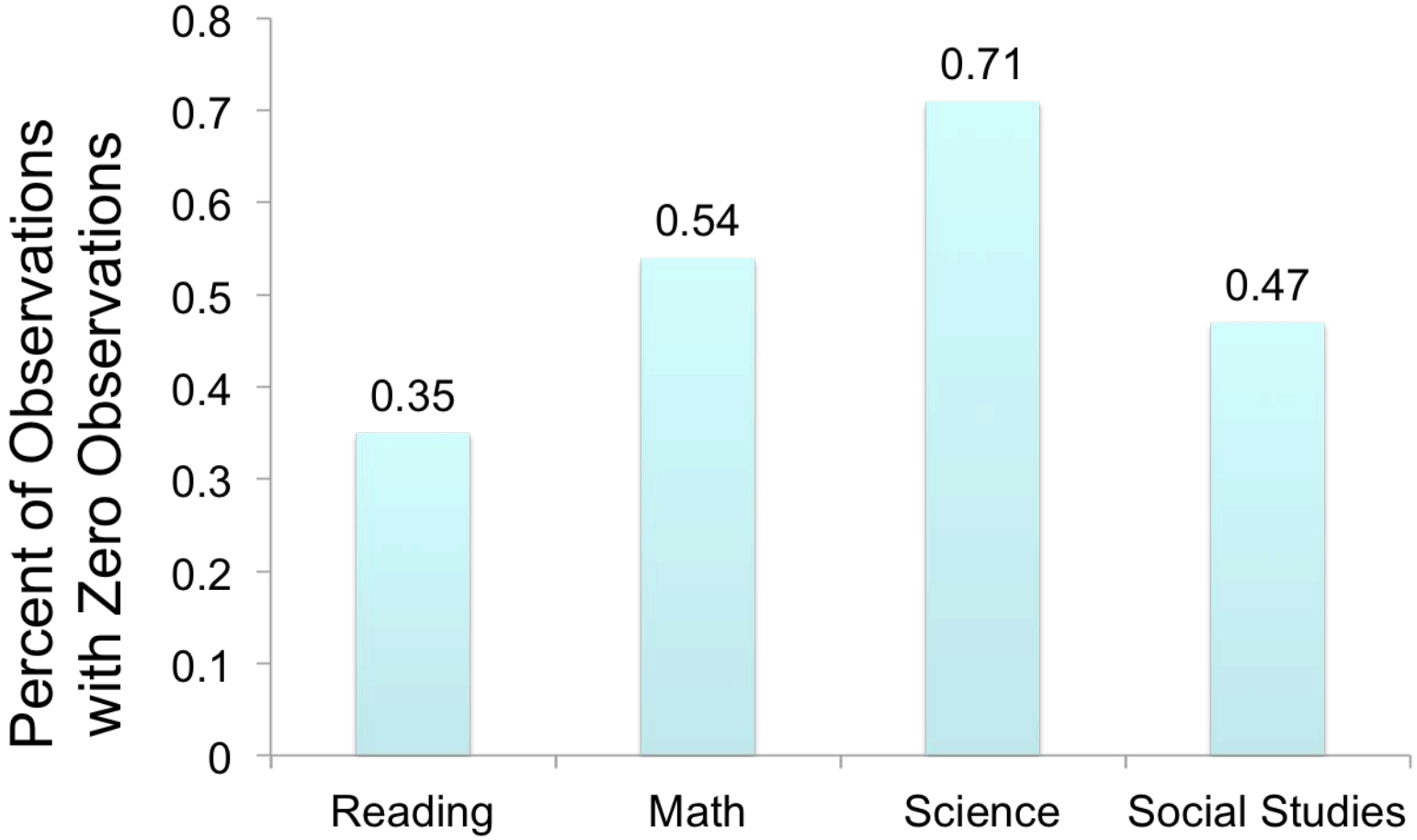
1. Feedback that behavior is inappropriate
   - *"is that the right way?"*
   - *"is there a better way?"*
   - *"are you being respectful – why not?"*
2. Re-teach appropriate behavior
   - *"what is a better way?"*
   - *"what would it look like if it was done better?"*
   - *"what is a more respectful behavior?"*
3. Facilitate success with positive feedback
   - *"Show me that --- thanks – remember to do that."*

Feedback



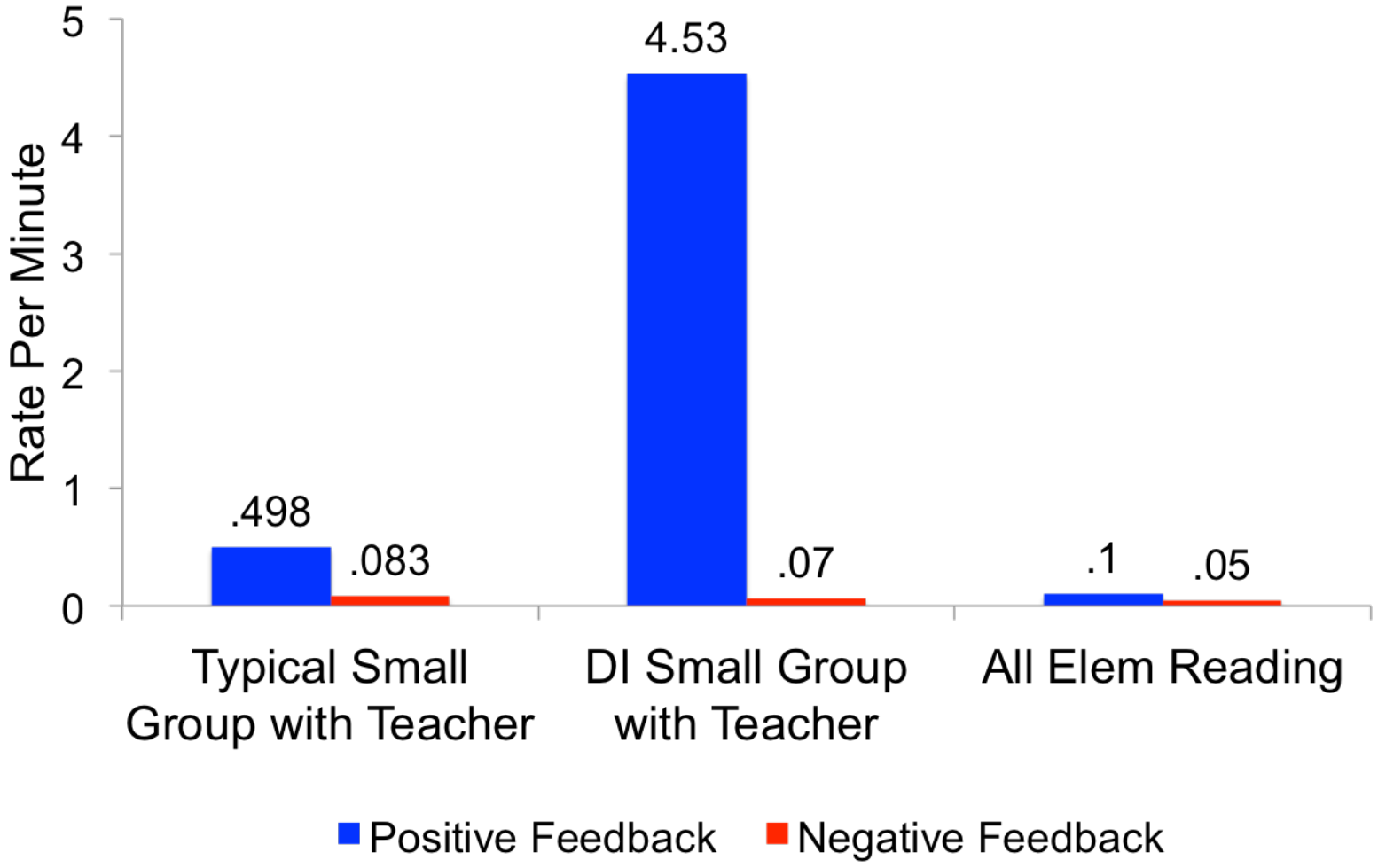
3.5 : 1 **2 : 1** **1: .66** **1.9 : 1**

Positive Feedback – Zero Rates



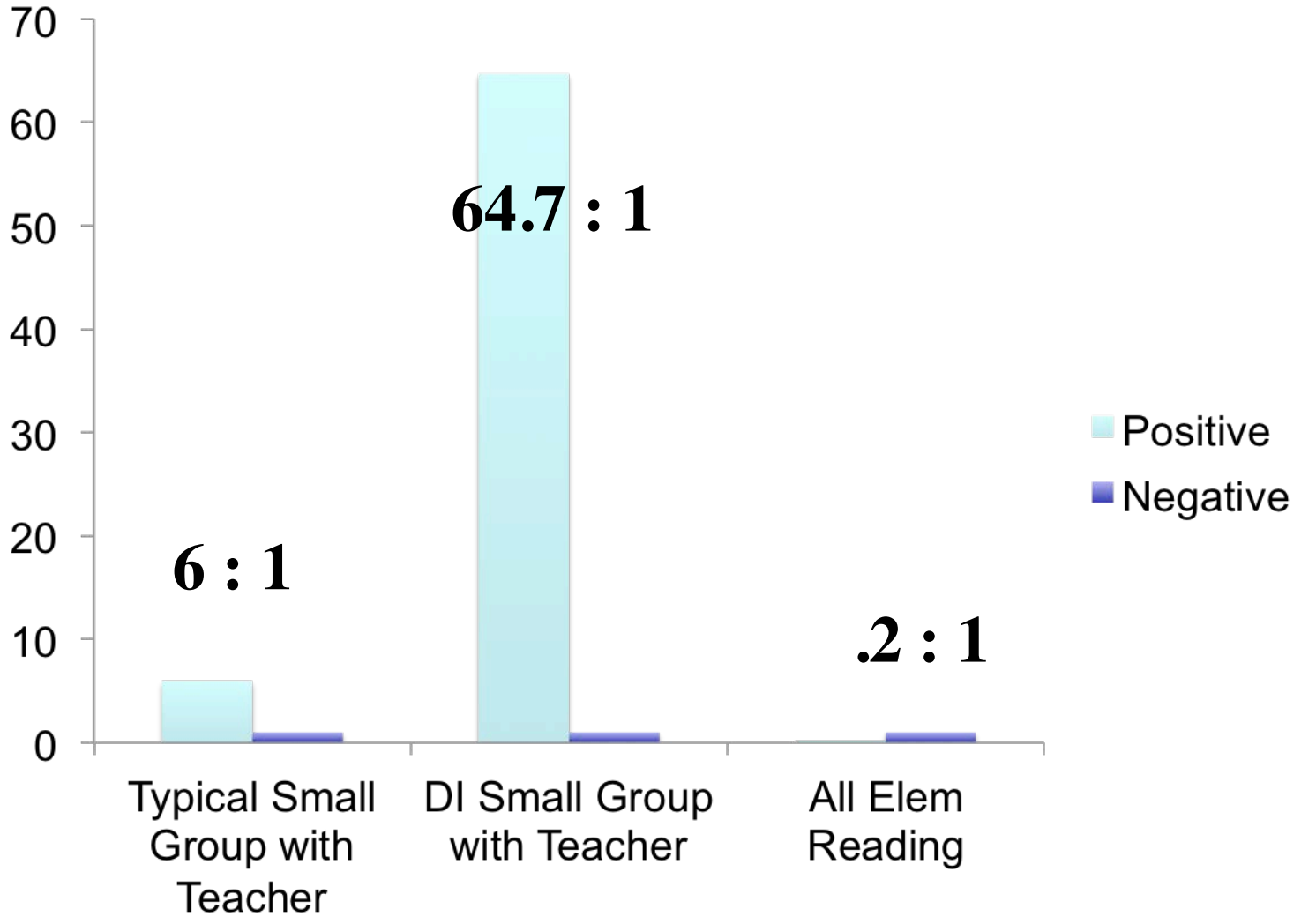
Comparison: Typical & DI

Feedback: Rate

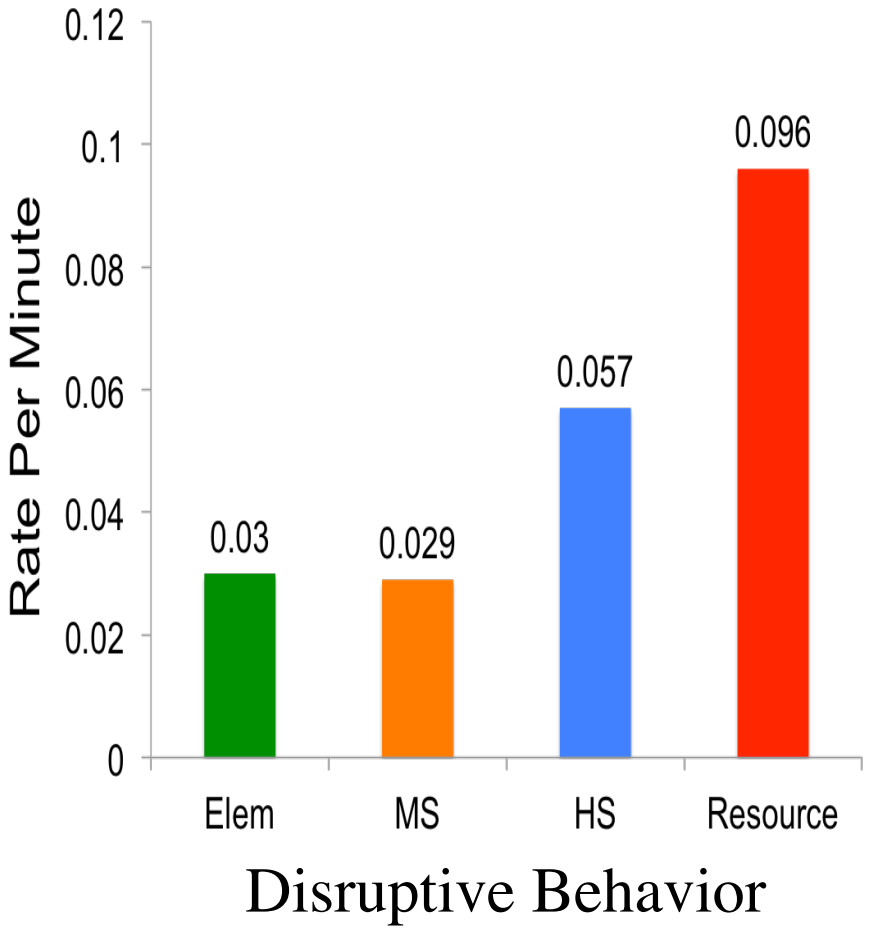


Comparison: Typical & DI

Feedback: Ratio



Effects are Real



Students with teachers using the least amount of OTR and Feedback in the classroom are more than **27% more likely to be off task** and more than **67% more likely to be disruptive**

Extrapolating Across the School Year

Feedback

Assuming 5 hour school day, 20 day school month, and 180 day school year

Minimum recommended positive to negative ratio of 3:1	Feedback Rate per min		*Positive Feedback Deficit compared to Recommended 3:1 Ratio (.05 neg/min)*				
	Pos.	Neg.	Per Min	Per Hour	Per Day	Per Month	Per Year
Elementary	.14	.04	-.02	-1.2	-6	-120	-1080
Middle School	.06	.03	-.03	-1.8	-9	-180	-1,620
High School	.03	.05	-.12	-7.2	-36	-720	-6,480

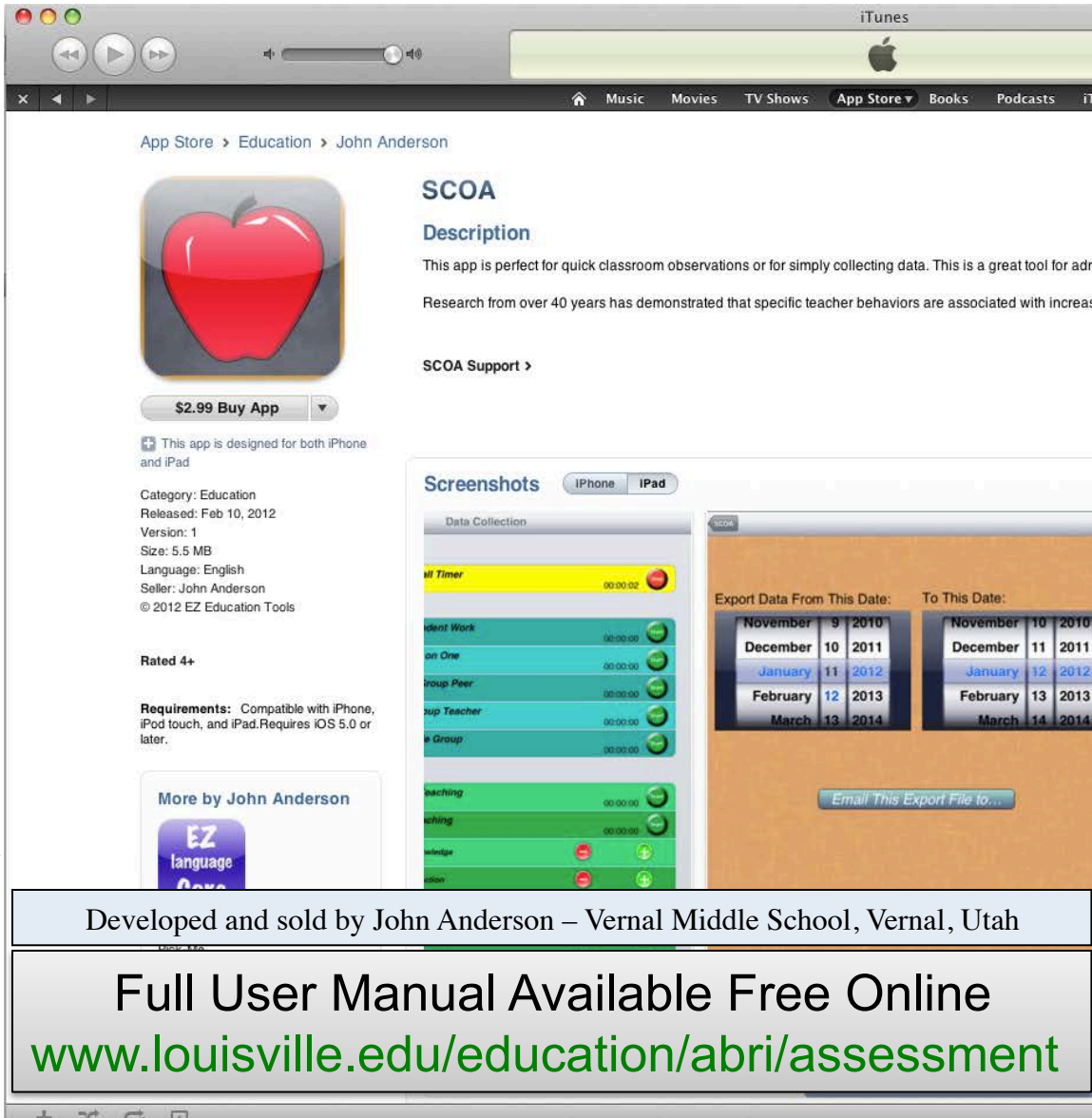
Definition of Feedback (positive and negative):

Teacher gives the class or individual student specific feedback on an academic or social behavior that indicates the behavior/response is correct or incorrect. Does not include correction (negative feedback with re-teaching)

SCOA iPad Application

School/Classroom Observation & Evaluation

- Includes all effective instruction codes for teachers and students
- New codes may be added
- Duration and frequency data
- Includes walk-through assessment component
- Generates graphs (export)
- Facilitates repeated observations of same teacher/context/student
- Data can be dumped into Excel or SPSS for reliability calculations and complex analyses
- Continuing updates



Developed and sold by John Anderson – Vernal Middle School, Vernal, Utah

Full User Manual Available Free Online

www.louisville.edu/education/abri/assessment

Changing Teaching Behavior

PBIS Team

PLC Teams

Goal Setting in PLC 1

Goal Setting in PLC 2

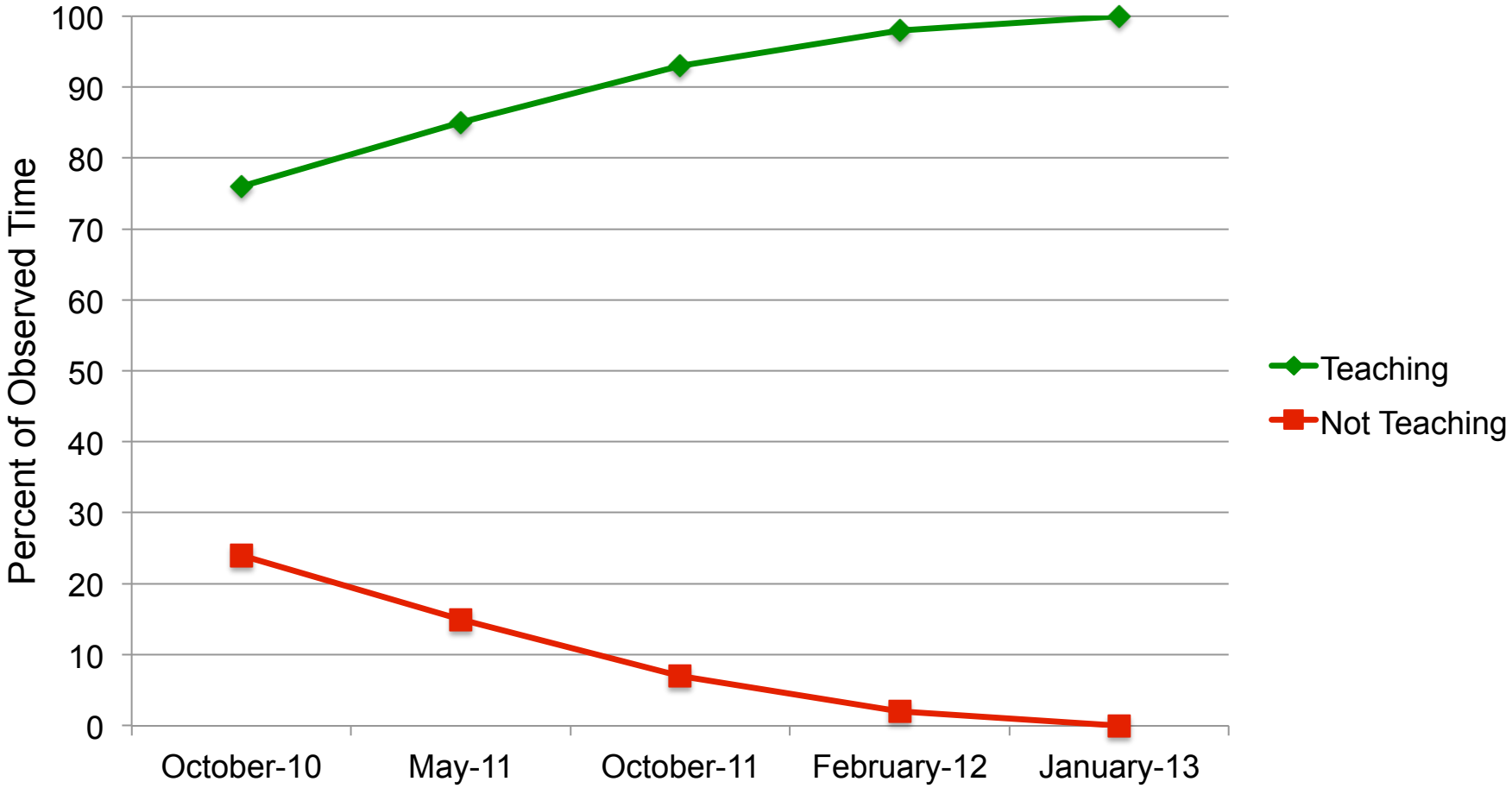
Goal Setting in PLC 3

Goal Setting in PLC 4

Goal Setting in PLC 5

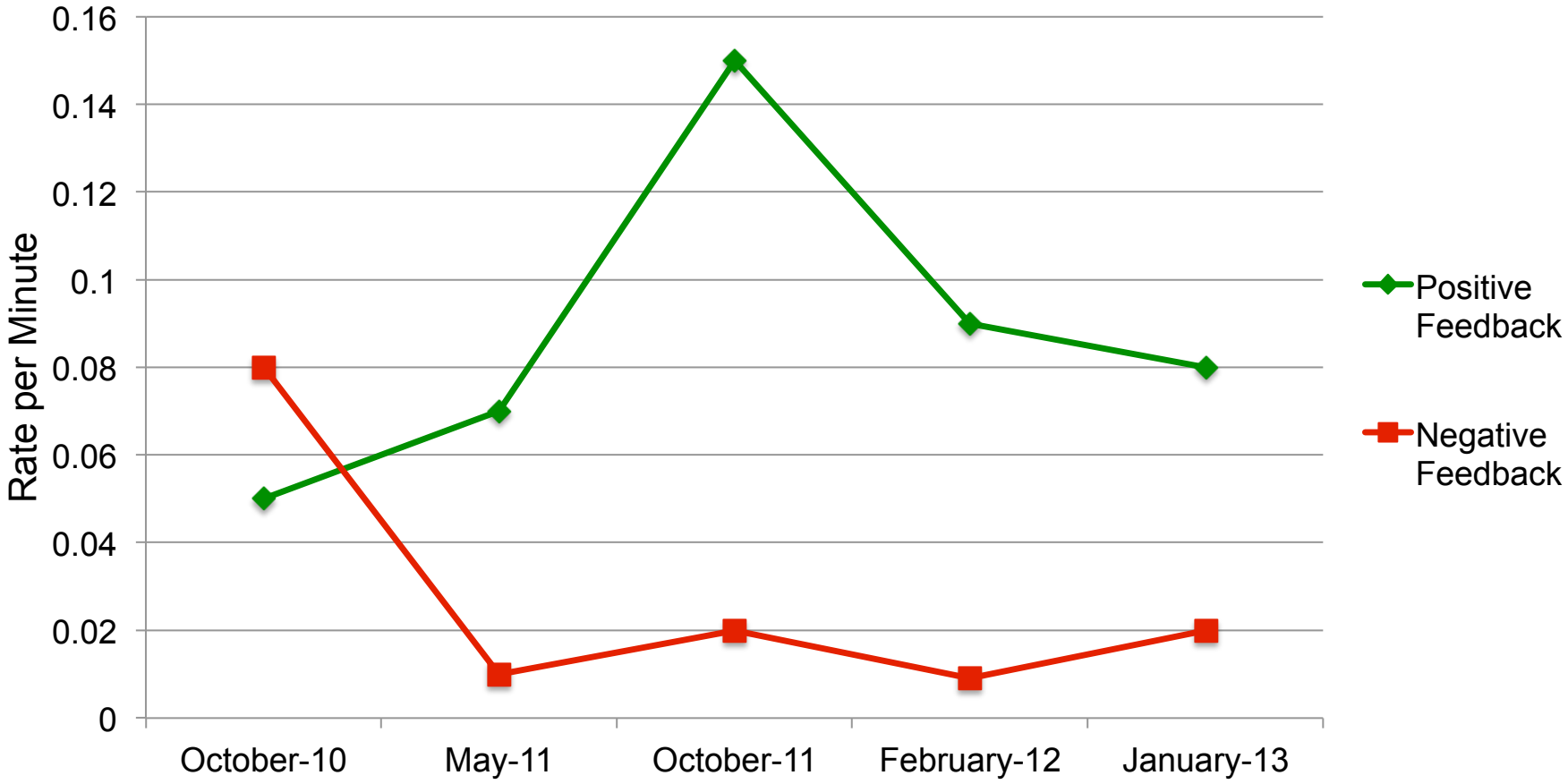
Change in Teaching

"M" Elementary, KY



Change in Feedback

"M" Elementary, KY



CIBRS

Center for Instructional and Behavioral Research in Schools

Access to Video links, Training materials, and Resources

CIBRS

The University of Louisville

Doctoral Program In Learning & Behavior Disorders

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