

Experiences in and Impacts of Classrooms K-3: Implications for Head Start

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Discover. Create. Change.

Questions concerning HS and K-3

- **What experiences for social and cognitive development are offered to children in K-3 classroom settings?**
- **Do these interactions with teachers and experiences in classrooms matter for students?**
- **What are the implications for supporting and evaluating long-term effects of Head Start?**

Large-scale observational studies

- **National-level studies**
 - ❑ **National Center for Early Development and Learning (NCEDL)**
 - ❑ **NICHD Study of Early Child Care**
 - ❑ **Additional large-scale CLASS observations**
- **Up to 1,000 settings observed at preschool, K, 1, 3, 5 – more than 6,000 classrooms**
- **Largest set of systematic standardized classroom observation in U.S. schools**

Describing opportunities to learn: Counting behaviors, activities, practices

- **Vast majority of interaction/activity is whole group or individual seatwork**
- **Few, if any, social or instructional interactions between teacher and individual child**
- **Mostly literacy (50%-90% of instruction)**
- **Exceptional variation within and across grades and classrooms**
- **Consistent patterns from pre-k to 5th grade**

How do students spend time?

- High-levels (30%) of “business/routine” activity
 - Pk-5: managing materials, routines
- High levels of “basic skills” focus
 - 7:1 in pk-1; 14:1 in 3-5
- Ratio of listening, sitting, watching: Doing
 - 10:1

First Grade Classroom Activities

	<u>Number intervals observed (60 max)</u>		
	<u>\bar{x}</u>	<u>S.D.</u>	<u>Range</u>
<u>Activity</u>			
Teacher-led group	30.94	13.31	0-60
Teacher-led individual	16.81	12.31	0-58
<u>Subject areas</u>			
Literacy/language arts	36.99	14.43	0-60
Mathematics	8.32	11.20	0-50
Science	2.53	6.91	0-59
Social studies	1.47	4.98	0-48
Social/transition	10.42	7.91	0-51
<u>Academic activities total</u>	49.32	11.67	0-87

Descriptions of 5th grade classroom settings: Mean percent and range of intervals, scaled to 60

<u>Setting</u>	Mean percent of intervals	Range
Whole class	52.80	0 - 57.00
Individual	38.40	0 - 54.00
<u>Activities</u>		
Literacy/language arts	36.62	0 - 48.00
Word level	16.72	0 - 48.00
Comprehension	28.22	0 - 58.50
Mathematics	24.40	0 - 42.75
Computation	17.52	0 - 42.00
Concept/problem-solving	7.05	0 - 35.25
Science	11.35	0 - 37.50
Social studies	13.08	0 - 36.00
Enrichment	2.50	0 - 30.00
Technology	2.17	0 - 22.50
Free time	0.55	0 - 19.50

Classroom ratings: CLASS PK-5 {COS}

- Positive climate
- Negative climate
- Teacher sensitivity
- Regard for student perspectives

**Emotional
Support**

- Effective behavior management
- Learning formats/engagement
- Productivity

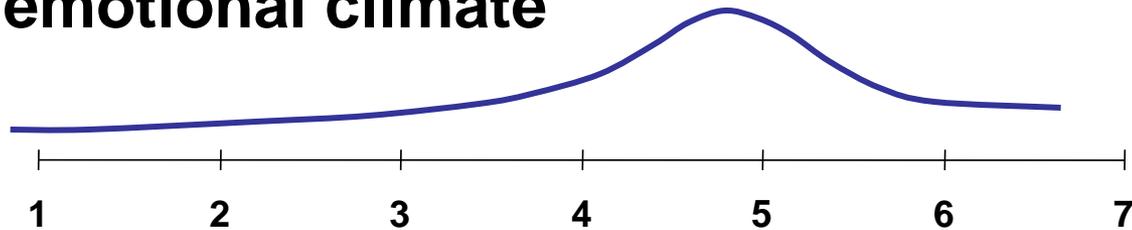
**Organization/
Management**

- Concept development
- Evaluative feedback
- Language modeling

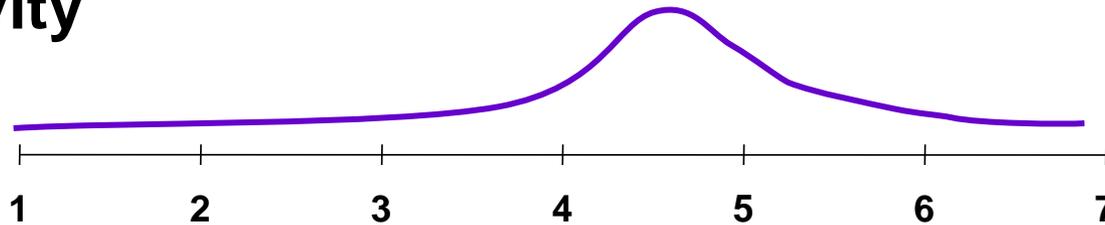
**Instructional
Support**

What is the quality of the classroom setting?

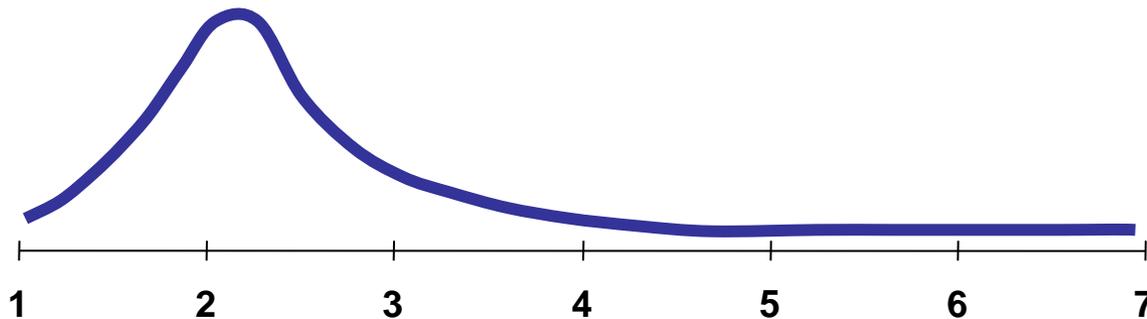
■ Positive emotional climate



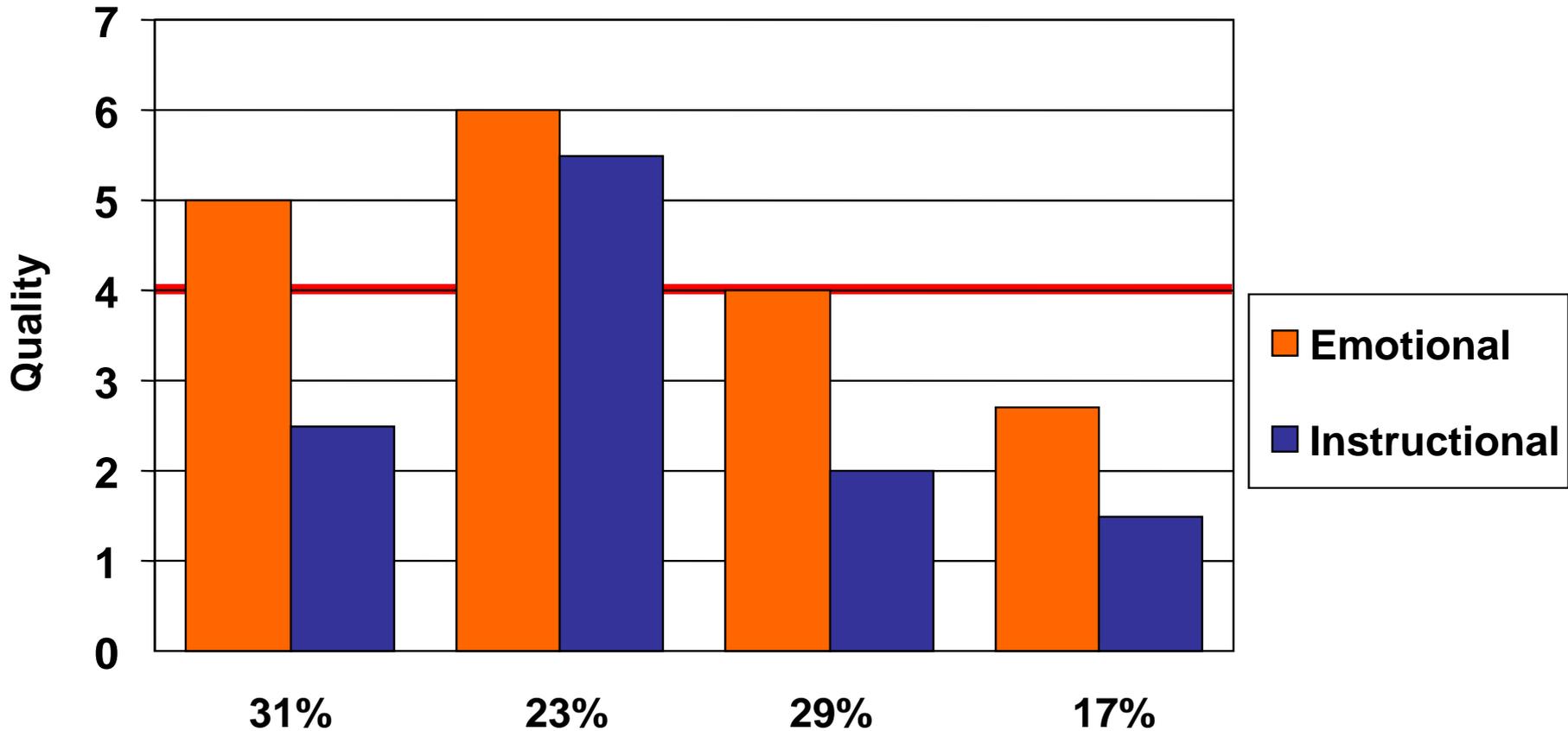
■ Productivity



■ Quality of feedback



Profiles of classroom quality: First grade



What is the consistency of experience across grades?

- **Cross-grade stabilities for**
 - Emotional support - .20
 - Instructional support - .15
- **Declines in teacher sensitivity, literacy activities, teacher discipline, teacher positive affect, child engagement (also declines within-day)**
- **Increases in teacher detachment, math, science, social studies**
- **Results not affected by whether child attended different schools**

Stability profiles 1, 3, 5

High quality = top tercile 2/3 occasions

Low quality = bottom tercile 2/3 occasions

Can be in mid-tercile 1 or fewer times

Rates of “stable” quality 1, 3, 5

	<u>High</u>	<u>Low</u>
Emotional	17%	18%
Instructional	14%	20%

If low on WJ Achievement at 54 months, likelihood of stable high instructional quality is only 20%.

If poor, only 10% likelihood of stable high instructional quality.

What observational studies tell us

- **Exceptional variability within and across grades, generally passive instructional environments**
- **Little to no association of observed behavior:**
 - Teacher experience or training, curriculum, public/private
 - Teacher salary
- **Small associations (.10 - .20)**
 - Class size: larger classes more structured; smaller classes more social and higher instructional quality
 - Family income/education related to more positive ratings
- **Students needing access to stable high-quality instruction do not typically receive it – 10% rate**

Predicting student development in pre-k

	Emotional Support	Instructional Support	ECERS-R Total
Receptive Language		✓	
Expressive Language		✓	✓
Rhyming		✓	
Letter Naming		✓	
Math Skills		✓	
Social Competence	✓		
Behavior Problems	✓		

Changes in children's development from beginning to end of preschool

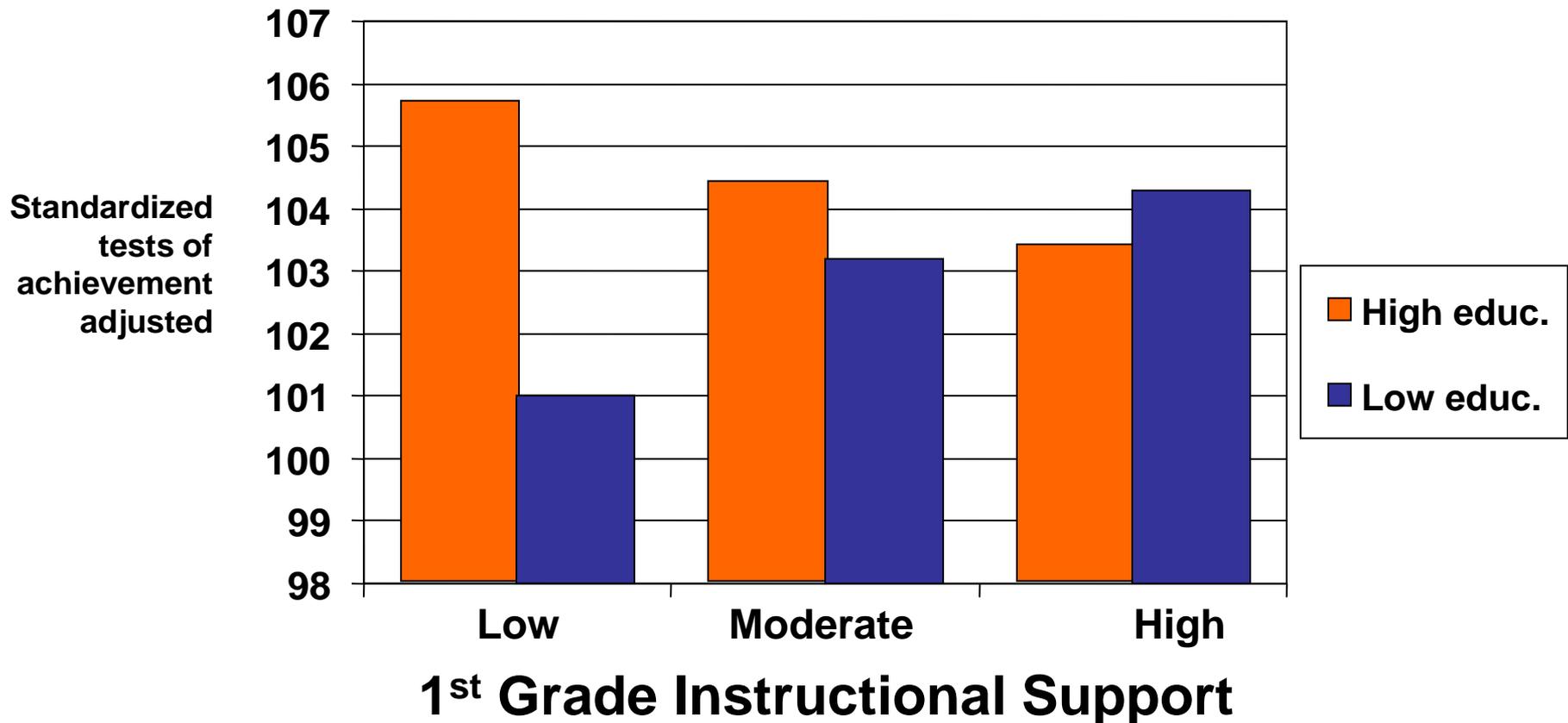
Mashburn, et al. (in press)

Do associations persist into kindergarten?

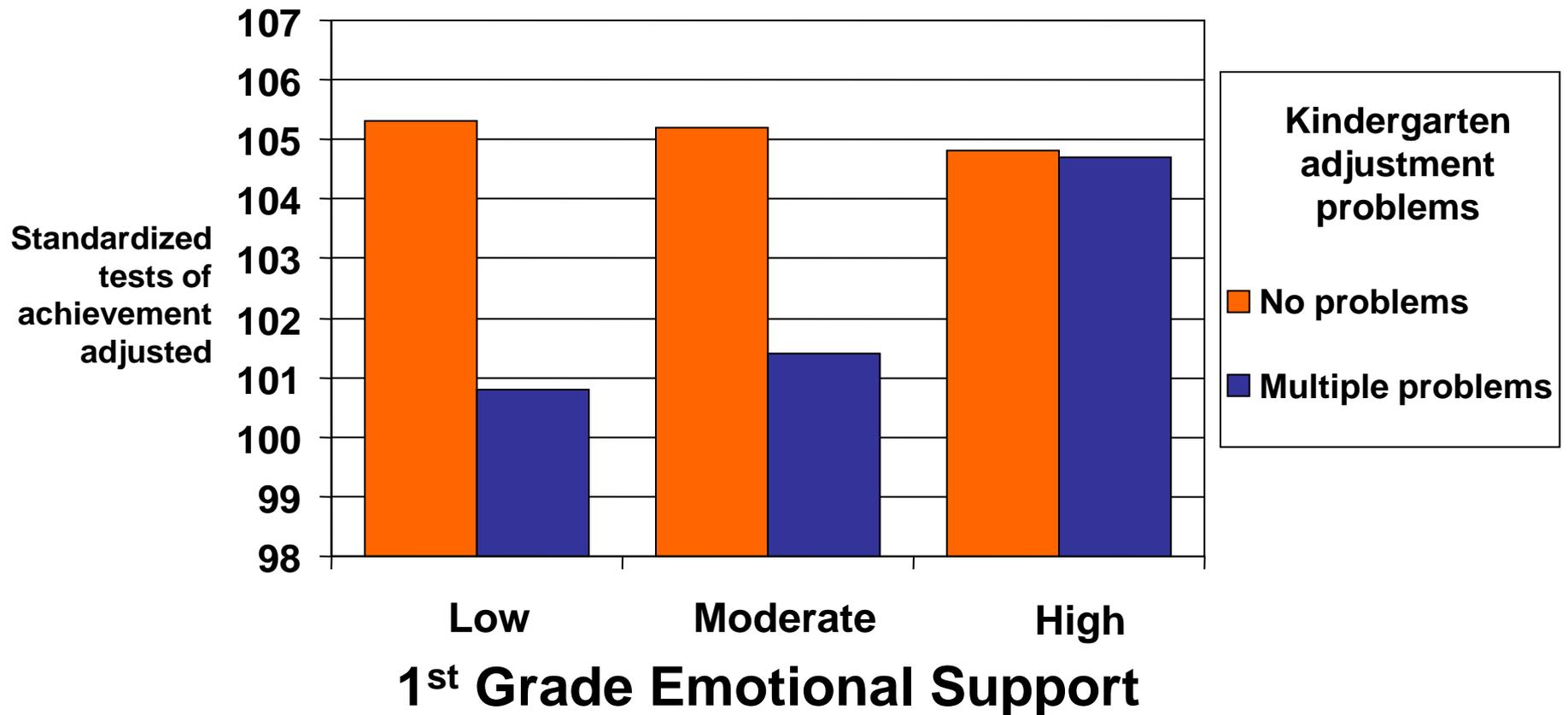
- Burchinal et al., (in press)

- Yes, children in pre-k classrooms offering higher levels of Instructional Support displayed better language skills at the end of the kindergarten year
- Kindergarten Instructional Support scores made an independent contribution to gains in children's language and math abilities
- One-point differences in observed instructional supports appear linked to shifts in child outcomes

Gains in grade 1 achievement in instructionally supportive classrooms



Gains in grade 1 achievement in emotionally supportive classrooms



“Active range” for effects

- Analysis of “thresholds” – points on distribution where impacts are evident
- Emotional Support – “4.5” and above
- Instructional Support – “2” and above”
- For IS, the active range appears linked to teachers’ increased support for cognitive skills

Dual-language learners

- **Two major studies**
- **Does CLASS describe interactions in language-diverse settings?**
- **Does CLASS predict outcomes similarly?**
- **CLASS 3-factor structure and psychometric properties same across diverse classrooms**
- **Predicts outcomes similarly for DLLs**
- **Evidence supports use in diverse settings**

Classroom interactions and children's social and academic performance

- Designs that isolate effects for instructional and emotional inputs controlling for other influences – value added
 - Family and demographics, prior performance, school/teacher
- Primarily small effects ($d = .1-.2$)
 - Instructional and emotional quality predict more positive achievement and social outcomes
 - Larger effects on more proximal outcomes (e.g., child engagement)
 - Exposures to more instruction in literacy and math also predict to those outcomes
 - Variation also matters (within-day and across years)
- Stronger effects for different groups of children (.5 s.d.)
 - Low maternal education
 - Adjustment problems in K
 - Poor

Conclusions/implications for HS

- **K-3 classroom experiences widely varied and unstable**
- **Mostly inadequate in nature and somewhat lower quality for poor children**
- **Impacts of K-3 experiences can be gap-closing for achievement outcome**
- **HS impacts: moderation and fade out**
- **HS impact studies must account for K-3 experiences**