



# RESEARCH ON CLASS SIZE REDUCTION

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# SAGE as a multidimensional reform designed to close the achievement gap

- Decrease class size K-3
- Provide challenging curriculum
- Enhance teacher professional development
- Strengthen home-school collaboration

# PUPIL TEACHER RATIO VS. CLASS SIZE REDUCTION

- Pupil teacher ratio: focus on proportion not group size
  - Pupil teacher ratio is to assure equitable distribution of funds. To make sure that every building & every youngster, whatever the state formula is, gets his or her share of the money. It's not an organization for instruction. It's an administrative device to trace money. (Achilles)
- Class size reduction: reducing number of students assigned per classroom



FOCUSING ON CLASS SIZE ALONE IS LIKE TRYING TO DETERMINE THE OPTIMAL AMOUNT OF BUTTER IN A RECIPE WITHOUT KNOWING THE NATURE OF THE OTHER INGREDIENTS.

BERGER, 1982

# Theory of Action in Class Size Reduction



# ASSUMPTIONS BEHIND CLASS SIZE REDUCTION

- More assessment
- More home-school interaction
  - Better knowledge of students
- Better instruction
- Fewer disciplinary disruptions
- Students learn culture of schooling
- Recursive cycle of success for teachers & students

# HOW SMALL DO CLASSES NEED TO BE?

- There is no magic number but the small classes in the STAR study were between 13 and 17 students. So then states look at that and say, "How much can we afford" and come up with a number like California did – 20. There is nothing you can point to in research that says, "Well, 20 is the magic number." Joan McRobbie

# GROUP SIZE

- In STAR elementary students assigned to small classes (13-17) outperformed classmates assigned to regular classes (22-25 students) by .22 SD (Krueger, 1999, STAR)
- UK Implementation: <20, 20-25, 26-29, 30+
  - smaller classes enhanced literacy, student talk & participation, teachers use more instructional strategies, more social interaction



# SHORT TERM OUTCOMES

- Compared to students in larger classes, students in small classes
  - outperformed peers in literacy & reading
  - fewer disciplinary problems
  - more teacher child interaction
  - more teaching time



# LONG TERM OUTCOMES

- Children from small K class outperform peers from large classes in 4th grade
  - better behaved
- Still outperforming in 8th grade but difference reduced
- Fewer children retained in grade
- More parent-teacher interaction
- More teaching time



# SIDE EFFECTS

- Increased teacher hiring could reduce teacher quality;
- in general not the case in CA (Kane & Staiger, 2005);
- disproportionately affected minority serving schools (Jepsen & Rivkin, 2009).
- Space crises

# VARIATION IN TREATMENT & EFFECTS

- Most evaluation done at grade 3 -- how do we evaluate this treatment?
  - K: 30:2 tag team taught (up to 34 in spring)
  - 1st: 12:1
  - 2/3: 15:1 (up to 18:1 in spring)
- While students in small classes outperform students in large classes **ON AVERAGE**, there is variation

# DIFFERENTIAL EFFECTS

- African American students benefited more from small classes than white students, though there were positive effects for all. (Pritchard, 1999)
- Larger effects with lower grades



# THE OPPONENTS

- There are better investments that could be made, costing less, with similar results
  - teacher quality
  - administrative staff
  - public preK

Questions about why class size matters to student learning are squarely instructional. They concern what happens inside classrooms when teachers help a small number of students negotiate new content. Researchers might consider, for example, the types of instructional activities that teachers are able to plan for and enact when working with only a relatively small number of students or the extent to which smaller class sizes allow for more productive interactions among students. (Ball & Forzani)

# REASONS DISTRICTS CITE FOR NOT USING 15:1

- Insufficient funding - most schools use funding from other sources
- Enrollment growth - "At the beginning of the year we start up as high as 18 & then attrition down."
- Limited space - using every space including unheated hallways and restrooms, teachers forced into teams
- Special education programming - challenge of multiple professionals in a classroom





## Lower quality classrooms

- exceedingly small,
- separated with temporary dividers,

## Lower quality teamed classrooms,

- doubles of equipment and furniture
- limiting free movement and instructional formats like partner work, small group work, and learning centers.

## Highly rated classrooms

- beautifully developed instructional spaces
- the environment contributed to classroom management.



# SPACE

# Theory of Action in Class Size Reduction



“The difference in teaching in a SAGE classroom and a non-SAGE classroom is this — SAGE classrooms are much more difficult to teach in.”



I looked at her and I said, “You’ve got to be kidding me, you only have 15 kids!” and she said, “No, the management is easier. That is not the issue. . .you get to know your children at such a deeper level and get to know their learning strengths and their learning needs to such detail.”

# RESPONSIVE TEACHING IN SAGE CLASSROOMS

- Strong content, with curriculum that addresses particular students
- Instructional grouping differentiated by need
- Culturally responsive – high expectation & representing students' lives
- Connecting resources, individuals, school, home & community

# IT'S NOT JUST DOWN TO THE TEACHER

Our results suggest that it is not just down to the teacher. In contrast to a direct model, it is not entirely the teacher's responsibility; contextual factors cannot be ignored. Teachers will vary in their effectiveness, but the size of the class and the size of the groups in the class necessarily affect what a teacher has to deal with, and can present her with choices and the need for compromises. Class size is therefore one environmental contextual factor that will influence teachers and pupils in a number of ways. (Blatchford, 2003, p.160)

# SCHOOL IMPLEMENTATION OF SAGE

- a) administrative resources & strategies,
- b) extra-classroom relationships and resources that shape the instructional interactions,
- c) resources and practices in the classroom

# School integrated implementation

- most integrated form
- administrative practices optimize the resource allocation
  - aligned to support student needs,
  - bringing together professionals with diverse expertise to differentiate instruction
- clear leadership that includes staff in decision-making.
- shared mission
- higher ratings of classroom quality and higher measures of student achievement.

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# Fragmented implementation

- Lacking coherence across contexts,
- School subgroups & practices working independently, out of sync
- Conflict over the roles & responsibilities necessary to meet student needs.
- Gaps in services & poor resource utilization
  - teachers and students did not have tools to support learning.
- Low to low-moderate quality and lower student achievement.



# Classroom-defined implementation

- Most variability in classroom quality, student achievement, staff philosophy.
  - skilled teachers with strong sense of their practice clearly engaged their students; given autonomy to craft a context.
  - Weak teachers left on their own to figure SAGE out.
- Lacked the capacity building that systematically provided support among staff.

# HOW DOES CLASS SIZE REDUCTION WORK? IT DEPENDS:

- grade level
- teacher understanding of the resource and ability to use effectively
- distributed leadership
- adaptive leadership