

Title: Research on class size

Date: April 2014

Question: >> Could you provide research on class size?

Response:

This memo includes reports and articles about class size, as well as additional organizations to consult.

- Citations include a link to a free online version, when available.
- Citations are accompanied by an abstract, excerpt, or summary written by the author or publisher of the article.

We have not done an evaluation of these resources or organizations, but rather provide them for your information only.

References

Barrett, N., & Toma, E. F. (2013). Reward or punishment? Class size and teacher quality. *Economics of Education Review*, 35, 41-52.

Abstract: The high-stakes testing and school accountability components of our K-12 education system create an incentive for principals to behave strategically to maximize school performance. One possible approach is the adjustment of class sizes based on observed teacher effectiveness. Conceptually, this relationship may be positive or negative. On one hand, performance-maximizing principals may place more students in the classrooms of more effective teachers. But because administrators may have compensation constraints, it is also plausible that they may reward more effective teachers with fewer students in the classroom. This paper examines whether principals reward effective teachers by decreasing their class size or whether they increase the size of classes of more effective teachers as a means of enhancing the school outcome. Results overall indicate that more effective teachers do have larger classes. This result holds implications for prior policy studies of class size as well as for education policy more generally.

Biddle, B., & Berliner, D. (2002). *What research says about small classes and their effects*. Policy Perspectives, part of *In Pursuit of Better Schools: What Research Says* series. San Francisco, CA: WestEd. Retrieved on March 25, 2014, from http://www.wested.org/online_pubs/small_classes.pdf

Abstract: Interest in class size is widespread today. Debates often appear about “ideal” class size, and controversial efforts to reduce class size have appeared at the federal level and in various states around the nation. Moreover, a good deal of research has appeared on class size, and controversies have also arisen about that research and its findings. What types of research have appeared on class size to date, what findings have surfaced from that research and how can we

explain those findings, why have those findings provoked controversy, and what should we conclude now about class-size policies from research on the topic?

Blatchford, P., Bassett, P., & Brown, P. (2011). Examining the effect of class size on classroom engagement and teacher—pupil interaction: Differences in relation to pupil prior attainment and primary vs. secondary schools. *Learning and Instruction*, 21(6), 715-730. Retrieved on March 25, 2014, from <http://www.classsizematters.org/wp-content/uploads/2011/04/Examining-the-effect-of-class-size-on-classroom-engagement-and-Teacher-pupil-interaction-Differences-in-relation-to-pupil-prior-attainment-and-primary-vs.-secondary-schools.pdf>

Abstract: It is widely recognized that we need to know more about effects of class size on classroom interactions and pupil behavior. This paper extends research by comparing effects on pupil classroom engagement and teacher-pupil interaction, and by examining if effects vary by pupil attainment level and between primary and secondary schools. Systematic observations were carried out on 686 pupils in 49 schools. Multilevel regression methods were used to examine relationships between class size and observation measures, controlling for potentially confounding factors like pupil attainment. At primary and secondary levels smaller classes led to pupils receiving more individual attention from teachers, and having more active interactions with them. Classroom engagement decreased in larger classes, but, contrary to expectation, this was particularly marked for lower-attaining pupils at secondary level. Low-attaining pupils can therefore benefit from smaller classes at secondary level in terms of more individual attention and facilitating engagement in learning.

Bohrnstedt, G. & Stecher, B. (Eds.). (2000). *What we have learned about class size reduction in California (Capstone Report)*. Palo Alto, CA: American Institutes for Research. Retrieved on March 25, 2014, from http://www.classize.org/techreport/CSRYear4_final.pdf

Abstract: This final report on the California Class Size Reduction (CSR) initiative summarizes findings from three earlier reports dating back to 1997. Chapter 1 recaps the history of California's CSR initiative and includes a discussion of what state leaders' expectations were when CSR was passed. The chapter also describes research on class-size reduction that has been conducted elsewhere. Chapter 2 presents findings from previous CSR evaluations in California and relates these findings to program implementation issues, parent support, relationship of CSR to academic achievement, changes in teacher qualifications, teaching practices and resource issues, and the effect of CSR on the identification of special-education students. Chapter 3 asks what policy implications might be drawn from the research and how CSR fits into the larger context of standards-based education reform in California. The report provides the following major findings: implementation of CSR occurred rapidly, though it lagged in schools serving minority and low-income students; the relationship of CSR to student achievement was inconclusive; CSR was associated with declines in teacher qualifications and a less-equitable distribution of credentialed teachers; CSR had a modest effect on teacher mobility; implementation did not affect special-education identification or placement; and parents liked reduced-size classes.

Brühwiler, C., & Blatchford, P. (2011). Effects of class size and adaptive teaching competency on classroom processes and academic outcome. *Learning and Instruction*, 21(1), 95-108.

Abstract: In many studies of class-size effects, teacher characteristics are missing, even though many argue it is not class size that is important but teacher quality. In the present study, teachers' effectiveness on the learning progress was assessed while teaching a unit with predefined learning objectives. To measure adaptive teaching competency, a multi-method approach was employed (e.g., vignette and video test). There were 49 teachers and 898 students. Smaller classes led to higher academic learning progress, better knowledge of students, and better classroom processes.

Adaptive teacher competency remained relevant in smaller classes; that is, class size and teacher quality were independently important.

Chingos, M. (2012). The impact of a universal class-size reduction policy: Evidence from Florida's statewide mandate. *Economics of Education Review*, 31(5), 543-562. Retrieved on March 25, 2014, from http://www.hks.harvard.edu/pepg/PDF/Papers/PEPG10-03_Chingos.pdf

Abstract: Class-size reduction (CSR) mandates presuppose that resources provided to reduce class size will have a larger impact on student outcomes than resources that districts can spend as they see fit. I estimate the impact of Florida's statewide CSR policy by comparing the deviations from prior achievement trends in districts that were required to reduce class size to deviations from prior trends in districts that received equivalent resources but were not required to reduce class size. I use the same comparative interrupted time series design to compare schools that were differentially affected by the policy (in terms of whether they had to reduce class size) but that did not receive equal additional resources. The results from both the district- and school-level analyses indicate that mandated CSR in Florida had little, if any, effect on student achievement.

Chingos, M. & Whitehurst, G. (2001). *Class size: What research says and what it means for state policy*. Washington, DC: The Brookings Institution. Retrieved on March 25, 2014, from <http://www.brookings.edu/research/papers/2011/05/11-class-size-whitehurst-chingos>

Excerpt: The substantial expenditures required to sustain smaller classes are justified by the belief that smaller classes increase student learning. We examine “what the research says” about whether class-size reduction has a positive impact on student learning and, if it does, by how much, for whom, and under what circumstances. Despite there being a large literature on class-size effects on academic achievement, only a few studies are of high enough quality and sufficiently relevant to be given credence as a basis for legislative action.

Council of Chief State School Officers. (2012). Chiefs' pocket guide to class size: A research synthesis to inform state class size policies. Washington, DC: Author. Retrieved on March 25, 2014, from http://www.ccsso.org/Documents/Class_Size_Pocket_Guide_for_LegCon.pdf

Excerpt: Few questions in public education discourse benefit as much from research-based evidence as the question of class size: the pursuit of the ideal number of students that should be co-located for any particular period of instruction. But for policymakers, research on class size can be an embarrassment of riches, and much of the research appears to conflict; literature reviews often find that the number of studies boasting significant returns on investment offered by class size reduction (CSR) equals the number citing its ineffectiveness. Still more reports suggest no significant effects at all. In this Chief's Pocket Guide, we draw from the major studies and literature reviews of CSR to find that, when viewed in isolation—a practice not recommended—dramatic reductions in class size are associated with desirable outcomes, including higher levels of student learning, and the typically modest effects are more pronounced in the early grades and for low-income minority students. When viewed from a whole-systems perspective, however, CSR efforts require a comprehensive consideration of resources, and therefore may not be the most cost-effective approach to improving student learning.

Finn, J. D. (2002). Small classes in American schools: Research, practice, and politics. *Phi Delta Kappan*, 83(7), 551–560. Retrieved on March 25, 2014, from http://www.classsizematters.org/wp-content/uploads/2011/04/finn_2002.pdf

Abstract: Finn provides a brief overview of the current status of class-size reduction programs in the U.S., summarizes the research base that has moved districts and states to seek class-size reduction, and calls attention to the misapplication of the research in some contexts. He also discusses current research into the long-term consequences of small classes and efforts to explain why they are effective.

Hattie, J. (2005). The paradox of reducing class size and improving learning outcomes. *International Journal of Educational Research*, 43(6), 387-425.

Abstract: This paper addresses four questions: What are the effects of reducing class size? How important are these effects? How can we explain these effects? and How can we improve the outcomes when class sizes are reduced? A major aim is to provide directions for resolving the paradox as to "Why reducing class size has not led to major improvements in student learning," and the conclusion is that class-size reductions can lead to worthwhile increases provided certain conditions are met.

McRobbie, J., Finn, J., & Harman, P. (2000). *Class size reduction: Lessons learned from experience* (Policy Brief No. 23). San Francisco: WestEd. Retrieved on March 25, 2014, from

<http://www.wested.org/resources/class-size-reduction-lessons-learned-from-experience/>

Abstract: New federal proposals have fueled national interest in class-size reduction (CSR). However, CSR raises numerous concerns, some of which are addressed in this policy brief. The text draws on the experiences of states and districts that have implemented CSR. The brief addresses the following 15 concerns: Do small classes in and of themselves affect student learning? What conditions are critical to achieving the small-class effect? What do we know about why small classes are academically beneficial? How small is small enough? Can small-class features be identified and used in large classes to create a small-class environment? For how long do students need to be in small classes to gain lasting benefits? Is CSR worth the cost? How much does CSR typically cost? Are there ways to contain the costs of reducing class size? Is the necessary infrastructure in place to support CSR? Should CSR be used in conjunction with other strategies? Will CSR be optional or mandatory? Will the funding be flat or wealth adjusted? Will there be a rigid cap or is the number of students per class flexible? Will small classes be self-contained or team-taught? A brief overview of four CSR initiatives is presented.

Reichardt, R. (2001). *Reducing class size: Choices and consequences*. Aurora, CO: Mid-Continent Research for Education and Learning (McREL). Retrieved on March 25, 2014, from http://jotamac.typepad.com/jotamacs_weblog/files/ReducingClassSize.pdf

Excerpt: This policy brief draws on research and evaluations of efforts in three states to describe different approaches to reducing class size in kindergarten through third grade. Tennessee implemented a randomized experiment to investigate the effectiveness of smaller classes; California used a statewide approach; and Wisconsin targeted class-size reduction as part of an effort to increase achievement in high-poverty schools. Evidence from these states and other studies provides guidance for policy makers about whether and how to implement a class-size reduction program.

Additional Organizations to Consult

CSR Research Consortium

<http://www.classize.org>

From the website: The CSR Research Consortium [was] composed of major California research organizations working in partnership on a four-year, comprehensive study to evaluate the implementation and impact of California's class-size reduction initiative under a contract with the California Department of Education. The evaluation was legislatively mandated and based on a research plan adopted by the State Board of Education. The Consortium [was] headed by the American Institutes for Research (AIR) and RAND and involves Policy Analysis for California Education (PACE), WestEd, and EdSource.

Education Commission of the States—Class Size page

<http://www.ecs.org/html/issue.asp?issueid=274>

From the website: Parents, educators, and the public consistently have ranked lower class size high on their list of desired education reforms. The question is: Do smaller classes make a positive difference in achievement, especially for poor children? This site serves as a portal to a variety of information on class-size reduction, including summaries of the latest research findings; details about federal, state, and school district initiatives; and links to several organizations that are closely monitoring the implementation and impact of class-size reduction efforts nationwide.

Methods

Keywords and Search Strings Used in the Search

“class size” and “research”; “class-size reduction”

Search of Databases

ERIC, EBSCO, Google, and Google Scholar

Additional Organizations/Websites Searched

American Institutes for Research; Education Commission of the States

Criteria for Inclusion

When REL West staff review resources, they consider—among other things—four factors:

- **Date of the Publication:** The most current information is included, except in the case of nationally known seminal resources.
- **Source and Funder of the Report/Study/Brief/Article:** Priority is given to IES, nationally funded, and certain other vetted sources known for strict attention to research protocols.
- **Methodology:** Sources include randomized controlled trial studies, surveys, self-assessments, literature reviews, and policy briefs. Priority for inclusion generally is given to randomized controlled trial study findings, but the reader should note at least the following factors when basing decisions on these resources: numbers of participants (Just a few? Thousands?); selection (Did the participants volunteer for the study or were they chosen?); representation (Were findings generalized from a homogeneous or a diverse pool of participants? Was the study sample representative of the population as a whole?).
- **Existing Knowledge Base:** Although we strive to include vetted resources, there are times when the research base is limited or nonexistent. In these cases, we have included the best resources we could find, which may include newspaper articles, interviews with content specialists, organization websites, and other sources.

This memorandum is one in a series of quick-turnaround responses to specific questions posed by educators and policymakers in the Western region (Arizona, California, Nevada, Utah), which is served by the Regional Educational Laboratory West (REL West) at WestEd. This memorandum was prepared by REL West under a contract with the U.S. Department of Education’s Institute of Education Sciences (IES), Contract ED-IES-12-C-0002, administered by WestEd. Its content does not necessarily reflect the views or policies of IES or the U.S. Department of Education nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.