



**POLICY AND PROGRAM STUDIES SERVICE**

---

**A Descriptive Evaluation of the  
Federal Class-Size Reduction Program**

**Executive Summary**

**2004**



# **A Descriptive Evaluation of the Federal Class-Size Reduction Program**

## **Executive Summary**

By

Mary Ann Millsap

Jennifer Giancola

W. Carter Smith

Dana Hunt

Abt Associates Inc.

Cambridge, Mass.

Daniel C. Humphrey

Marjorie E. Wechsler

Lori M. Riehl

SRI International

Menlo Park, Calif.

Prepared for:

U.S. Department of Education

Office of the Deputy Secretary  
Policy and Program Studies Service

2004

This report was prepared for the U.S. Department of Education under Contract No. HS 282-98-0006, Task 19. The project monitors were Stacy Kotzin and Tracy Rimdzius in the Policy and Program Studies Service. The views expressed herein are those of the contractor. No official endorsement by the U.S. Department of Education is intended or should be inferred.

**U.S. Department of Education**

Rod Paige

*Secretary*

**Office of the Deputy Secretary**

Eugene Hickok

*Deputy Secretary*

**Policy and Program Studies Service**

Alan L. Ginsburg

*Director*

**Program and Analytic Studies**

David Goodwin

*Director*

**August 2004**

---

This report is in the public domain. Authorization to produce it in whole or in part is granted. Although permission to reprint this publication is not necessary, the citation should be: U.S. Department of Education, Office of the Under Secretary, Policy and Program Studies Service, *A Descriptive Evaluation of the Federal Class-size Reduction Program: Executive Summary*, Washington, D.C., 2002.

This report is available on the department's web site at  
<http://www.ed.gov/about/offices/list/ods/ppss/reports.html>

On request, this publication is available in alternative formats, such as Braille, large print, audiotape, or computer diskette. For more information, please contact the Department's Alternate Format Center at (202) 260-9895 or (202) 205-8113.



# Acknowledgements

We want to thank the more than 500 district staff and almost 500 principals who completed the two national surveys on class-size reduction. We also appreciate the cooperation and goodwill of the six states, 12 districts, and 24 schools whose personnel were so generous with their time as we visited their offices, schools, and classrooms. We are particularly pleased with our collaborative relationship with SRI International, who was an equal partner with us in each aspect of this evaluation. They visited half the states, and authored Chapter 3. Their prior knowledge of the class-size reduction efforts in California greatly informed this evaluation. We also want to thank our colleagues at the CSR Research Consortium, the partnership researching California's class size reduction reform. They were very generous in sharing their early evaluation findings as well as their instruments; we adapted several survey items for use in our surveys. We also appreciate the advice, support, and guidance of our federal Project Officers Tracy Rimdzius and Stacy Kotzin in the U.S. Department of Education.



# Executive Summary

## Overview of the Program

The federal Class-Size Reduction (CSR) Program, first authorized in PL 105-277, begun in Fiscal Year 1999, represented a major federal commitment to help school districts hire additional qualified teachers, especially in the early elementary grades, so children would learn in smaller classes. The CSR program also allowed funds to be spent as professional development, in part to help teachers take advantage of instructional opportunities in smaller classes. The ultimate goal of the program was to improve student achievement, particularly in reading, by reducing class size in grades K-3 to 18 students.

Through the Department of Education Appropriations Act of 1999, \$1.2 billion was initially appropriated for this program. States allocated 100 percent of the funds to school districts based upon a formula distribution using poverty and enrollment data. There was neither a ceiling nor a floor on district allocations. School districts were required to use a minimum of 82 percent of the funds for recruiting, training new teachers, and teacher salaries. No more than 3 percent was to be used for local administration and no more than 15 percent to pay such costs as professional development. The initial emphasis was on reducing class size in grades 1 to 3. In FY 2000, the appropriation totaled \$1.3 billion, the grade span was expanded to include kindergarten, and the proportion of funds potentially available for professional development increased from 15 percent to 25 percent, whereas the portion required to be used on teacher salaries correspondingly decreased from a minimum of 82 to 72 percent. The FY 2001 appropriation rose to \$1.623 billion.

As part of the reauthorization of the 2001 Elementary and Secondary Education Act of 1965 (ESEA), the CSR program was folded into Title II. Although no longer a separate federal program, class-size reduction remains an allowable use of funds under Title II, Part A. It is one of many ways that districts can use their Title II, Part A funds to improve teacher quality and student achievement in their schools. Therefore, this evaluation provides valuable lessons not just about the federal CSR program, but also about a major component of Title II, Part A of NCLB.

## Purposes of the Evaluation

The evaluation was designed to address multiple research questions, organized into three main categories: (1) distribution and uses of federal CSR funds; (2) implementation of CSR; (3) and effects of CSR on class size. This evaluation was not intended to provide data on the effects of CSR on classroom practices or student achievement. Under the uses of funds, we were particularly interested in how districts used their funds, the numbers of teachers hired, the schools selected to receive CSR teachers, spending issues such as the extent of carryover from 1999-2000, and the coordination of federal CSR funds with other funding sources. Questions about CSR implementation included sources and qualifications of new teachers, types of recruitment activities undertaken, nature and quality of professional development provided, and availability of facilities for reducing class size.

To assess the impact of the federal CSR program on class size, we were interested in the methods used to reduce class size as well as average class size before and after the program went into effect.<sup>1</sup>

## Methodology

The evaluation used mixed data collection methods. Surveys of district staff and school principals provided generalizable information about the federal CSR program, while site visits to six states, 12 districts (two in each state), 24 schools (two in each district), and 48 CSR classrooms (two from each school) provided qualitative information that illuminated and helped verify the survey findings. The surveys and site visits were conducted in the spring of 2001, during the federal CSR program's second year of funding, and most data correspond to the 2000-2001 school year.

## Research on Class-Size Reduction

Support for the federal CSR program was based on research that found that small classes could have a positive influence on student achievement. For example, research from Tennessee's Project STAR (Student-Teacher Achievement Ratio) found that students who had been randomly assigned to small classes (13 to 17 students) in grades K-3 outperformed their peers in regular classes (22 to 25 students) and in regular-plus-aide classes on standardized and curriculum-based tests (Achilles *et al.*, 1996). Additionally, by eighth grade, those students who had been placed in small classes through Project STAR were still outperforming students who had been placed in regular classes or regular-plus-aide classes in K-3 (Finn, 1998; Nye, 1995).

The Wisconsin Student Achievement Guarantee in Education (SAGE) study led to conclusions similar to the STAR study—students in SAGE classrooms (12 to 15 students) achieved higher scores than students in comparison classrooms (21 to 25 students) (Molnar *et al.*, 1999). In the SAGE study, teachers reported that they had more knowledge about students, more instructional time allowing them to cover more content and individualize instruction, and fewer discipline problems. These changes in their classrooms increased job satisfaction, reduced the stress of teaching many students, and allowed teachers to work with other teachers in more effective ways.

Other researchers, however, have argued that the external validity of the Tennessee experiment (STAR) has not been established sufficiently to warrant generalizing the results across different populations and settings in the United States. These critics claim that further randomized experiments are needed (Hanushek, 1999) and that class-size reduction in the context of teacher shortages can reduce teacher quality and effectiveness and can shrink or eliminate any benefits of having fewer students in the classroom (Jepsen & Rivkin, 2001). Additionally, researchers suggest that most teachers do not change their instructional practices when class size is reduced, and “only teachers whose instructional methods benefit from smaller classes—e.g., those who work with small groups, those who depend on personal relationships with students, those who emphasize hands-on projects—are more productive with smaller than with larger classes” (Ehrenberg, Brewer, Gamoran & Willms, 2001).

---

<sup>1</sup> Because the school survey is limited to schools that had hired at least one teacher with federal CSR funds, average class size was computed only in those grades in which teachers were placed. The average class size then will be smaller than a nation-wide average across all grades and schools.



Findings from California's class-size reduction initiative confirm some of these critics' concerns. Under a law passed in 1996, the state provided districts with \$650 per student for each K-3 classroom with 20 or fewer students. An evaluation of this class-size reduction initiative found that class-size reduction was associated with declines in teacher qualifications and inequitable distribution of credentialed teachers; i.e., as districts reduced class size in K-3 classrooms, they hired more teachers without full credentials, most of whom were hired by schools serving the most disadvantaged students. Additionally, although parents said they liked the reduced size classes, and teachers reported giving students more individualized attention in these classes, teachers did not report covering more curriculum as a result of small class size, nor did the evaluation link reduced class size to changes in student achievement (Bohrnstedt & Stecher, 2002).

## Findings from the Federal Evaluation

### Distribution and Uses of Funds

- In the first year, federal CSR funds were distributed to states based upon the greater of a state's share of funds under Part A of Title I or the Eisenhower Professional Development State Grants program formula. In years 2 and 3, state distributions were proportional to the year 1 distribution. Within states, all funds were distributed to school districts based on the number of children in poverty (80 percent) and school enrollment (20 percent).
- States and districts received their funding allocations under the law, and spent it according to the mandated guidelines. In 2000-2001 for example, teacher salaries made up 84 percent of the funding, with 14 percent for professional development and 1 percent each for administrative procedures and new teacher training and testing.
- In 2000-2001, about 25,000 teachers were hired with federal CSR funds. Ninety-four percent were regular classroom teachers rather than specialist teachers. Three percent were reading specialists and 2 percent were in other categories. Schools with the largest class sizes in their district were typically the recipients of the federally funded CSR teachers. Sixty percent of schools hired one teacher, 30 percent hired two teachers, and 10 percent hired more than two teachers.
- In keeping with the law's explicit intent, two-thirds of all districts coordinated federal CSR funding with other funding sources, including funds from Title I of the Elementary and Secondary Education Act and Title II of the Higher Education Act, as well as state and local CSR initiatives. When districts received state or local CSR funds, those funds were typically five times the size of the federal CSR allocation but often came with more strings attached, such as restricting funding to teachers in separate classrooms.
- Although only 1 percent of the teachers hired with federal CSR funds were special education teachers, 16 percent of districts reported coordinating their CSR program with the Individuals with Disabilities Education Act (IDEA). The study did not explore how these programs were coordinated. In addition, sixty-nine percent of the districts offering professional development with CSR funds reported including special education teachers in this professional development. It is not clear why the professional development was not offered to special education teachers in every district.

- The single largest funding issue was the large carryover of first year funds into a second year of activities, not unexpected given the very short timeline to hire teachers and the uncertainty of second year funding. More than 60 percent of large districts, and 34 percent of medium and small districts, carried over funds from 1999-2000 to 2000-2001. Some made a strategic decision in 1999-2000 to carry funds over, whereas others either did not have enough time to hire teachers or could not find qualified teachers. Some \$150 million were carried over to the 2000-2001 school year.

## Implementation

- Recruiting and hiring fully certified teachers was a problem in almost one-third of large districts, and in 10 percent of smaller districts. Many large districts were engaged in large-scale recruitment initiatives (often with different funding sources), but a lack of credentialed applicants was a major problem (and more of a problem than non-competitive salaries or single year funding). In 40 percent of all districts, over 50 percent of the new hires were novice teachers.
- Although permitted to use up to 15 percent of federal CSR funds in 1999-2000 for professional development, and up to 25 percent in 2000-2001, districts spent an average of 13 percent in 1999-2000 and 14 percent in 2000-2001. Only 39 percent of districts chose to spend CSR funds on that activity. According to district personnel, the professional development offered typically focused on reading (80 percent of districts) and/or math (57 percent) rather than on instructional strategies to optimize the use of small class size (38 percent). In lieu of professional development, districts used funds to hire teachers to reduce class size.
- Just as large districts had trouble finding qualified teachers, they also were more likely than smaller districts to have shortages of space. Almost 60 percent of large districts reported facilities problems, typically not enough additional rooms and insufficient funds to modify existing facilities. In response, districts promoted team teaching or converted non-classroom space (other instructional rooms like gymnasiums, or non-instructional rooms like teachers' lounges) into classrooms. Overall, 42 percent of the schools that hired CSR teachers did not place them in self-contained classrooms.
- CSR implementation has been affected by other administrative and resource-related issues: the lack of state administrative funds resulted in minimal state involvement in the program; districts were unable to hire teachers due to the late notification of the availability of funds; district administrators were wary about the uncertainty of the program's future; and allocations for rural districts were too small to create a meaningful program.
- Based upon observations in 48 CSR classrooms in 24 schools, some teachers took advantage of smaller classes to tailor instruction and maximize one-on-one time with students, giving students more time and attention. At the same time, other CSR classes functioned like non-CSR classes, with desks in rows and the teacher lecturing from the front of the room.

## Changes in Class Size

- In the schools and grades where federally funded CSR teachers were placed, average class size decreased with the advent of federal CSR funds, typically by one or two students. After the federal CSR program, overall average class size ranged from 18 students per class in kindergarten, to 20 in grade 1 and 21 students per class in grades 2 and 3. There are two reasons for the modest reduction in average class size. Many schools (44 percent) did not assign the CSR teacher to a separate classroom, but rather assigned the teacher to special subjects or team teaching. Even in schools where teachers were assigned to their own classrooms, 52 percent had simultaneous increases in enrollment that mitigated class size reduction. Overall, 73 percent of schools either did not assign teachers to separate classes or had enrollment increases that reduced CSR's impact.
- In grade one, the largest decrease in the average class size in a single school was nine students per classroom; in grade 2, the largest decrease was ten students per classroom, and in grade 3, the largest decrease was 12 students per classroom.
- To reduce class size, 57 percent of schools placed CSR teachers in separate classrooms, 24 percent hired teachers to reduce class size in particular subjects (e.g., reading or mathematics). One in six schools (17 percent) created additional sections in priority subjects, and about 10 percent used team teaching.
- Schools most often used federal CSR funds to reduce class size in grades 1-3. Based upon our case studies, grade one was targeted to advance early literacy goals, whereas grade 3 was targeted to prepare students for state-mandated grade 4 assessments.

## References

- Achilles, C.M., Nye, B.A., Zaharias, J.B., Fulton, B.D., and Cain, C. 1996. Education's equivalent of medicine's Framingham heart study. Washington, DC: ERIC Clearinghouse.
- Bohrnstedt, G. W. & Stecher, B.M. (eds.). 2002. *What we have learned about class size reduction in California*. Sacramento, CA: California Department of Education.
- Ehrenberg, R.G., Brewer, D.J., Gamoran, A., & Willms, J.D. 2001. Class size and student achievement. *Psychological Science in the Public Interest* 2: 1-30.
- Finn, J. 1998. Class size and students at risk: What is known? What is next? Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement, National Institute on the Education of At-Risk Students.
- Hanushek, E.A. 1999. Some findings from an independent investigation of the Tennessee STAR experiment and from other investigations of class size effects. *Educational Evaluation and Policy Analysis* 21: 143-164.
- Jepsen, C., & Rivkin, S. 2001. *What is the tradeoff between smaller classes and teacher quality?* Unpublished manuscript, Public Policy Institute of California.
- Molnar, A., Smith, P., Zahorik, J., Palmer, A., Halbach, A., & Ehrle, K. 1999. Evaluating the SAGE program: A pilot program in targeted pupil-teacher reduction in Wisconsin. *Educational Evaluation and Policy Analysis* 21(2): 165-178.
- Nye, B., Fulton, B.D., Boyd-Zaharias, J., and Cain, V.A. 1995. The lasting benefits study, eighth grade technical report. Nashville, TN: Center of Excellence for Research in Basic Skills, Tennessee State University.