

**1998-99 RESULTS OF  
THE STUDENT ACHIEVEMENT GUARANTEE  
IN EDUCATION (SAGE) PROGRAM EVALUATION**

**DECEMBER 1999**

**EXECUTIVE SUMMARY**

**Submitted by the SAGE Evaluation Team**

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**<http://www.uwm.edu/SOE/centers&projects/sage/>**

### **EXECUTIVE SUMMARY**

1998-99 Results of the Student Achievement Guarantee in Education Program Evaluation

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#### **Introduction**

The Student Achievement Guarantee in Education (SAGE) program is a statewide effort to increase the academic achievement of children living in poverty by reducing the student-teacher ratio in kindergarten through third grade to 15:1. Schools participating in the SAGE program are also required to implement a rigorous academic curriculum, provide before- and after-school activities for students and community members, and implement professional development and accountability plans. The SAGE evaluation is being conducted under contract with the Department of Public Instruction by the School of Education at the University of Wisconsin–Milwaukee.

During the 1996–97 school year SAGE was implemented in 30 schools located in 21 school districts. It encompassed 84 kindergarten classrooms, 96 first grade classrooms, and 5 mixed grade classrooms enrolling 1,715 kindergarten and 1,899 first grade students. In 1997-98 the SAGE evaluation added 113 second grade classrooms in the original 30 SAGE schools. In 1998-99 the SAGE evaluation was made up of 131 kindergarten, 143 first grade, 143 second grade and 139 third grade classrooms enrolling 2,303 kindergarten, 2,508 first grade, 2,493 second grade and 2,572 third grade students.

To measure academic achievement, first-grade students in SAGE schools and in a group of comparison schools were tested in October 1998 and again in May 1999 using the Comprehensive Test of Basic Skills (CTBS) Complete Battery, Terra Nova edition,

Level 10 (Fall) and Level 11 (Spring). Second-grade students were administered Level 12 in May 1999, and third grade students were administered Level 13 in May 1999. Standardized tests are not administered to kindergarten students as part of the SAGE evaluation because in the judgement of the evaluation team standardized tests at the kindergarten level are not an appropriate evaluation measure.

## **Major Findings**

### The Achievement Effect of Class Size Reduction

#### First Grade

- As was found in 1997-98, test scores of SAGE and Comparison schools show statistically higher performance of SAGE students in language arts, math and total scores on the post-test in 1998-99 (Table 13).
- In 1997-98 and again in 1998-99, African American SAGE students scored lower on the CTBS pre-test than African American Comparison school students, but made significantly larger gains than Comparison school students from pre-test to post-test, surpassing African American Comparison school students on the post-test (Table 16).
- In both 1997-98 and 1998-99 African American students scored significantly lower than white students on the pre-test total scale score for both SAGE and Comparison schools. African American SAGE students achieved greater gains on the total scale score than white SAGE students from pre- to post-test, closing the achievement gap. At the same time, African Americans in Comparison schools achieved lesser gains, and the achievement gap with their white Comparison school classmates widened (Table 17).

#### Second Grade

- African American SAGE students scored significantly higher than African American Comparison school students on every sub-test and total scores in 1998-99 (Table 27).
- When looking at gains made in 1998-99 from the first grade post-test to the second grade test, SAGE African American students made the same significant gains that the white SAGE students did, and did close the achievement gap between African American and white SAGE students although the relative gain was not significant (Table 28).

#### Third Grade

- SAGE students scored significantly higher in reading, language arts, math, and total score than Comparison students on the third grade test in 1998-99 (Table 34).

- In 1998-99, test results suggest that statistically significant positive effects of SAGE occurred in first grade, were maintained in second and third grade (Table 35).
- In 1998-99, African American SAGE students performed significantly higher on every sub-test and total score over African American Comparison students on the third grade test

(Table 39).

- When second grade is used for a baseline score, African American SAGE students outperform African American Comparison students in reading, math, and total in 1998-99 (Table 39).
- African American students gained significantly more than SAGE white students in third grade, closing the achievement gap. Comparison school African American students did not gain significantly from second to third grade. In Comparison schools the gap between the performance of white and African American students widened (Table 40).

#### Additional Analyses

- Although they are not statistically significant, there are positive relationships between years of SAGE experience and student performance. This suggests that years of participation in SAGE may have a positive influence on achievement, although further research is necessary in this area (pp. 57-8).
- In all cases, classrooms with more affluent children from outperformed classrooms with children from poorer families (pp. 58-9).
- Classrooms with 30:2 student-teacher ratios achieved just as well as classrooms with 15:1 student-teacher ratios with the exception of language arts and mathematics sub-tests in second grade (pp. 59-60).
- In 1998-99 at the class level of analysis, smaller classrooms tended to score significantly higher in language arts, mathematics and reading, as well as total score after adjusting for individual pre-test results, socio-economic status and attendance. In other words, classrooms with fewer students are more likely to have higher class average achievement scores (Tables 18, 29, 30, 41, 42, 43).
- Twenty nine of the thirty top performing classrooms for which two years of data are available are SAGE classrooms (p. 61).

#### Reduced Class Size and Life in SAGE Classrooms

Data collected from case studies conducted in three selected SAGE schools during 1998-99, from Teacher Questionnaires administered to all SAGE teachers, and from Principal Questionnaires completed by all SAGE principals confirm, clarify, and extend SAGE results from 1996-97 and 1997-98 regarding classroom events. The major findings related to teaching a reduced size class are the following:

- Individualization dominates SAGE classroom life.

- Individualization is made possible because having fewer students enables teachers to know students better, it reduces the need for discipline which results in more time for instruction, and it increases teacher enthusiasm for teaching.
- The individualization that occurs is process individualization rather than substance individualization. Teachers vary their instruction for individuals, but the curriculum is the same for all students.
- The effect of individualization is increased articulation and critique. In the reduced size class students more frequently reveal their present understandings and teachers more frequently correct misunderstandings.
- The main type of instruction is teacher centered (e.g., students listen, answer, practice, etc.) rather than student centered (e.g., problem solving, creative projects, etc.), but the use of hands-on activities is growing in frequency.
- A product of individualization in reduced size classes in addition to academic development is student independence, thinking, and responsibility.

#### Other SAGE Interventions

- The reading-language arts and mathematics curricula at all three grade levels are in compliance with national standards. The compliance, however, is slightly greater in reading-language arts than in mathematics.
- Each SAGE school has an established staff development program that produces changes in classroom practices. The professional development program is mostly or completely implemented in over 75% of the schools.
- Lighted schoolhouse activities are present in each SAGE school.