

**Reference:** Finn, J. D. & Achilles, C. M. (1990). Answers and questions about class size. *American Educational Research Journal*, 27 (3), 557-577.

## STRUCTURED ABSTRACT

**Background:** Class size reduction continues to attract attention as a school reform measure. Prior research on the effects of class size has been inconclusive, leading to ongoing controversy and debate about the magnitude, if any, of a “class-size effect” on learning outcomes for children.

**Purpose:** To assess the effects of a statewide experiment where class size was substantially reduced in kindergarten and first grade classes.

**Setting:** 76 public elementary schools drawn from inner-city, urban, suburban, and rural locations in Tennessee. A total of 328 kindergarten classes and 347 first grade classes participated in the study.

**Subjects:** 6,570 students enrolled in kindergarten in the 1985-86 school year.

**Intervention:** Students were randomly assigned by project staff to one of three class types: small (13-17 pupils), regular (22-25 pupils), or regular with a teacher aide (22-25 pupils). Students assigned to small classes stayed in small classes for kindergarten and first grade.

**Research Design:** Randomized-controlled field trial.

**Data Collection and Analysis:** The Stanford Achievement Tests in reading and mathematics were administered in the spring of each school year, and a set of Tennessee curriculum-referenced tests were administered at the beginning of first grade. Means on each outcome measure were calculated for each class, then separately for white and minority students in each class. Two analyses were conducted using multivariate analysis of variance: a cross-sectional analysis of the entire first-grade sample and a longitudinal analysis of a subset of pupils (n=2291) who were in the study for both kindergarten and first grade and had complete SAT achievement test data.

**Findings:** Significant benefits of class size reduction were seen across all academic measures. The cross-sectional analysis of first graders yielded an overall difference of about one-fourth of a standard deviation among students in small classes vs. regular classes. Minority students benefited in particular, averaging a difference of a third of a standard deviation over their regular class counterparts on five of the six academic measures. In the longitudinal analysis, students in small classes had a highly statistically significant advantage in reading and mathematics over regular classes in both kindergarten and first grade.

**Conclusions:** This study demonstrates that small classes have an advantage over larger classes in reading and mathematics in the early primary grades. The analysis also strongly suggests that small classes especially benefit the academic performance of minority students.