

**Reference:** Sharp, Mark A. (2002). An analysis of pupil-teacher ratio and class size. Doctoral dissertation. Ypsilanti, MI: Eastern Michigan University.

## STRUCTURED ABSTRACT

**Background:** Debates in education about the relative merits of class size reduction often confuse two distinct concepts: class size and pupil-teacher ratio. Educational researchers, policymakers, and practitioners commonly misuse these two different terms as synonyms. Public information on education often leads to further confusion, as federal, state, and local education agencies typically report pupil-teacher ratios whereas class size data are extremely difficult to obtain, if available at all.

**Purpose:** To examine the differences between the two concepts of class size and pupil-teacher ratio in kindergarten through third grade in a sample of public elementary schools.

**Setting:** The thesis consisted of several different studies. The pilot multi-state study surveyed 104 public schools (including 96 elementary schools) in 12 U.S. states, 12 public schools (including 8 elementary schools) across Canada, and 1,788 public schools in the Canadian province of British Columbia. The follow-up multi-state study surveyed 35 public schools located in 7 U.S. states. The Michigan study surveyed 151 public elementary schools in the state of Michigan. The inner-city school study surveyed 11 Detroit public elementary schools participating in the Comer Project. The Burke County Schools study surveyed 14 public elementary schools in a school district of about 15,000 students in the western part of North Carolina. An ongoing class size reduction project had been underway in the Burke County Schools since 1991 where class size in grades 1-3 was limited to about 15 students.

**Population:** Students, teachers, school administrators and certified staff in public elementary schools in U.S. and Canada, with a special focus on kindergarten through third grade.

**Research Design:** Mixed Methods. Survey studies employed a quantitative comparison research design; the Burke County Schools case study involved both surveys and interviews with district staff.

**Data Collection and Analysis:** A pilot multi-state survey was sent out in 1997 to a convenience sample of educators in 12 U.S. states and Canada to develop and refine the survey instrument. In 1999, this refined survey was sent to a random sample of 300 Michigan public elementary school principals, requesting individual classroom and school building data, with a particular focus on kindergarten through third grade; 161 surveys were returned (response rate = 54%). The same survey was sent in 1999 to the principals of 18 public inner-city elementary schools in Detroit participating in the Comer Project, and 11 were returned (response rate = 61%). A follow-up survey of the Comer schools in Detroit was conducted in 2002, where surveys were sent to 21 principals and 13 were returned (response rate = 62%). In a follow-up to the 1997 multi-state survey, another survey was sent in 2001 to a convenience sample of school administrators enrolled in education administration doctoral programs, representing 35 public schools in 7 states.

Surveys and onsite interviews with district staff in Morganton, North Carolina were conducted in December 2001. The same survey used in the Michigan study was sent to the principals of 17 public elementary schools in the Burke County Schools, and 14 were returned (response rate = 82%).

Average class sizes were determined either by direct reports of class size at the classroom level or by dividing the number of students enrolled in a given grade (in kindergarten through third grade) in a school building by the number of general education teachers for that same grade (in kindergarten through third grade) in the school building.

Pupil-teacher ratios were determined by dividing total student enrollment in a school or district by the total number of certified staff in that school or district. Non-certified staff were specifically excluded from calculations of pupil-teacher ratios.

**Findings:** On average, the difference between average class size in a school building and the pupil-teacher ratio in the same school building for kindergarten through third grade was 9 or 10 students. For example, an elementary school with a school-wide pupil-teacher ratio of 16:1 in kindergarten through third grade would typically have an average class size of 25 or 26 students in those same grades. The difference between pupil-teacher ratio and average class size in kindergarten through third grade was about 9 students in the Michigan study; about 10 students in the multi-state study; and about 11 students in the study of Detroit schools participating in the Comer Project. In the Burke County Schools, a North Carolina school district where a class size reduction initiative had been active for over 10 years, the difference between pupil-teacher ratio and average class size in kindergarten through third grade was only 5 students.

**Conclusions:** Class size and pupil-teacher ratio are very different concepts and cannot be used interchangeably. Educational researchers, policymakers, and practitioners need to understand and carefully maintain the distinction between class size and pupil-teacher ratio when considering issues pertaining to class size and class size reduction.