

**Reference:** Blatchford, P., Moriarty, V., Edmonds, S., & Martin, C. (2002). Relationships between class size and teaching: A multimethod analysis of English infant schools. American Educational Research Journal, 39 (1), pp. 101-132.

## STRUCTURED ABSTRACT

**Background:** The University of London Class Size Study observed over 10,000 students in the early grades in the late 1990s and had two primary aims: to evaluate the relationship in the early grades between class size and student academic achievement and between class size and classroom processes.

**Purpose:** To report the findings of the University of London Class Size Study on the relationships between class size and the processes of classroom teaching.

**Setting:** England.

**Population:** 11,386 children between the ages of 4 and 7 enrolled in English all-through primary schools (ages 4-11) or infant schools (ages 4-7) in 1996-1998. 17% of participants were eligible for free school meals; 91% were classified as White.

**Research Design:** Longitudinal, observational cohort study that employed both quantitative and qualitative methods.

**Data Collection and Analysis:** The University of London Class Size Study followed two separate cohorts of students for 3 years each, starting with the “Reception” year (ages 4-5, similar to pre-kindergarten in the U.S.) and continuing through “Year 1” (ages 5-6, similar to kindergarten in the U.S.) and “Year 2” (ages 6-7, similar to Grade 1 in the U.S.). The first cohort consisted of 7142 students in 330 classes in 199 schools who began their Reception year in 1996; the second cohort consisted of 4244 students in 212 classes in 134 schools who began their Reception year in 1997.

Schools enrolled in the Class Size Study were randomly selected from within participating local education authorities. All students entering Reception classes in the selected school were included in the study. Differences in class size occurred naturally and were not experimentally changed in any way.

Teachers provided information on the way their classes were subdivided into small group for instructional purposes by noting the number and size of small groups within their class at a given time during the school day.

At the end of each term, teachers self-reported in questionnaires how teaching time was allocated in their classes to teaching activities versus classroom management and other non-teaching activities (e.g., taking attendance, collecting lunch money, talking with other adults in the classroom, dealing with visitors, getting students to line up before exiting). This study only used data from the 604 teachers of the first student cohort who began their Reception year in 1996.

Researchers conducted systematic classroom observations of a subsample of 235 students: six students were followed in each of 18 Reception classes with naturally occurring “small” class sizes (fewer than 20 students) and in each of 21 Reception classes with naturally occurring “large” class sizes (more than 29 students). Researchers used five-minute observation sheets divided into 10-second increments to note how children interacted with teachers and other students in the classroom.

Teachers reported in year-end questionnaires how they thought class size differences affected classroom teaching and learning. Questionnaires were completed by 359 teachers in Summer 1998 and by 283 teachers in Summer 1999. This study used teacher answers to one open-ended question: whether and in what ways class size differences had affected teaching and learning over the previous school year.

Case studies were conducted in a total of 24 classes that were considered “small” (fewer than 20 students), “small medium” (20-25 students), “large medium” (26-29 students), and “large” (over 29 students). The case studies included whole class observation; individual student observations; semi-structured interviews with teachers and head teachers; and the notes and observations of the field researchers, who were themselves experienced teachers. This study drew primarily upon data from three class studies in the “small” and “large” classes.

**Findings:** The most common open-ended response from the year-end questionnaires was that teachers in large classes reported giving less attention and feedback to individual students: this was noted by 58% of Reception teachers, 47% of Year 1 teachers, and 40% of Year 2 teachers. In general, teachers reported that large classes negatively affected both the quantity and the quality of their interactions with students. Teachers also wrote that they felt that students’ basic skills learning suffered in a large class and that teachers were less likely to get to know individual students in depth.

During the systematic classroom observations, 213 teacher-to-child interactions were observed in small classes (fewer than 20 students), compared to 144 teacher-to-child interactions for their counterparts in large classes (over 29 students) and 215 child-to-teacher interactions were observed in small classes compared to 148 of these interactions in large classes. Students in the large classes were more likely to spend time talking to other students: 76 student-to-student interactions were observed in the large classes compared to 54 student-to-student interactions in the small classes. All three of these observed differences between small and large classes were highly statistically significant ( $p < .001$ ).

Teachers reported that small class size was related to more teaching time occurring overall in the classroom, while large class size was related to less teaching time. In Year 1, on average teachers with “small” classes (20 or fewer students) reported using 76% of their overall classroom time to teach whereas Year 1 teachers with a class size of 26 or more students reported using 70% of their overall time to teach.

**Conclusions:** Teacher reports, systematic observations, and case studies from the University of London Class Size study clearly show that students in small classes in the early grades were more likely to interact with their teachers and receive more immediate and responsive feedback

from their teachers. In small classes, more one-to-one teaching occurred, and more teaching took place overall. In general, the University of London Class Size study indicates that more teacher support for learning was evident in the smaller classes.

This observational, longitudinal cohort study of over 10,000 children in England makes an original contribution to class size research by using both quantitative and qualitative methods to investigate the different ways in which class size can affect the process of classroom teaching in the early grades.