

## **Appendix G.**

### **Project STAR Abstracts**

#### **ABSTRACT**

**JANE WRIGHT ELDRIDGE. A Study of the Relationship Between Class Size and Teacher Absence (under the direction of DR. HELEN PATE BAIN.)**

The primary purpose of this study was to investigate the relationship between teacher absence and class sizes -- small 1:15 (X), regular 1:25 (R), and regular 1:25 with a full-time aide (Ra). Each could vary by two pupils. The secondary purpose was to evaluate five causes of absence: personal/family illness, professional/personal leave, and other. The third purpose was to investigate the relationship between student achievement (Stanford Primary I) and teacher absence.

The sample was Project STAR first grade teachers (1986-87). Analysis consisted of the ANOVA and crosstabulation procedures to test significance between (1) three types of class size and teacher attendance, (2) five causes of teacher absence and three types of class size, and (3) three levels of student achievement for Mathematics and Reading and three types of class size and teacher attendance. Crosstabulations were regrouped calculating four levels of teacher attendance, three types of class size, and three levels of student achievement for Mathematics and Reading.

Findings yielded no statistically significant difference between teacher attendance and class size, and between causes of teacher absence and class size. Personal illness was the most frequently used cause. Significance was found between low Mathematics achievement and class size and teacher attendance by use of the ANOVA. Scheffe showed significance between the (S) and (Rz). Significance was also found between low teacher attendance and class size and student reading achievement. Comparison of the cells of both groupings of crosstabulations of teacher attendance, class size and student achievement showed a trend of clustering low teacher attendance with low student achievement in the (R) and (Ra) classes. The small class (X), unaffected by teacher attendance, clustered in the higher achievement cells.

**Recommendations:** (1) Broader study of teacher attendance and student achievement; (2) Exploration of ways to fight teacher absenteeism by discovering the sources of teacher frustration and satisfaction; (3) Development of awareness program to show the results of Project STAR and to lobby for small class size statewide.

## **ABSTRACT**

### **JANET PARSONS BROWN. Teacher Attendance in Small Size Classes (under the direction of DR. PAUL MADDEN)**

The primary purpose of this study was to research the attendance of kindergarten teachers in three class size types: small classes (1:15), regular classes (1:25), and regular classes with a full-time aide. As secondary considerations, the attendance rates for these kindergarten teachers were also researched and compared according to the school types to which they were assigned (inner city, rural, urban, suburban), their experience levels (0-5, 6-11, 12 or more years), and the degrees held (bachelor's or master's or above).

There was a total of 336 kindergarten teachers assigned to 79 public schools, in 42 school systems from all areas of Tennessee who were considered for this study. These teachers who were participants in the Student Teacher Achievement Ratio (STAR) project during the 1985-86 school year, had been randomly assigned to one of the three class size situations. For this research study, the number of days absent and the number of days present for this target year were collected, and computed into an attendance rate for each teacher. No distinction was made between the reasons for teacher absences.

The crosstabulation procedure was used to determine the distribution frequency of the teachers among class size, school types, degrees held, and experience levels, an ANOVA statistical procedure was used to compare the mean attendance rates for each of the categories of the dependent variables.

The results of these statistical procedures showed no significant differences in the attendance rates of teachers among the three categories of class size, the four school types, the two levels of degrees held, or the three experience levels. Teachers reported feeling much lower levels of job-related stress in small classes. They also believed they were more effective teachers in the small size classes.

This study concludes that while teacher attendance is not affected by class size, school type, degrees held, or the experience level of the teacher, teachers perceive themselves as more effective and less stressed in small classes. It is therefore recommended that further research be conducted.

## ABSTRACT

### **DEBORAH A. HOLLADAY. The Effects of Small 1:15 Class Size on Retained First Grade Students (under the direction of DR. PAUL MADDEN and DR. HELEN PATE BAIN)**

The primary purpose of this research was to study the effects of 1:15 classes on first grade retainees. Reading and mathematics achievement, the student's birth order, number of parents, and attendance rates during the 1986-87 school year were the areas investigated.

The study compared first grade retainees in three 1:15 experimental (X) classes composed of all retainees in three Project STAR (Student/Teacher Academic Ratio) schools with all other Project STAR first grade retainees who were interspersed with other students in control classes of 1:15 (OS), 1:25 (Or), and 1:25 with an aide (Or/a). Retainees in the (X) classes were compared with retainees in forty-two control classes in twenty-five schools.

Data were analyzed using a one-way analysis of variance, a Scheffe Post Hoc Analysis, an uncorrelated t test, and a crosstabulation procedure with a chi-square test of significance. A difference that was statistically significant was found between the experimental classes and some control classes on reading and mathematics achievement on the Stanford Achievement Test and Basic Skills First Test at the .05 level of significance. The small (X) classes consistently scored above the control classes of (Ox), (Or), and (Or/a).

The (X) classes were significantly higher than the (Or) classes on the SAT Reading, and higher than (Or) and (Os) on the SAT Math. The (X) classes were significantly higher than the (Or), (Ox), and (Or/a) on the Basic Skills First (BSF) Reading and Math results. No significant differences were found between the small 1:15 experimental classes and student birth order, number of parents, and rate of attendance. This research then concludes that a small 1:15 class composed of all retainees is the most beneficial classroom setting for retained first grade students. The study should be replicated using second grade retainees to provide further support and evidence.

## **ABSTRACT**

### **ROSEANNE K. JACOBS. The Effects of Class Sizes of 1:15, 1:25, 1:25 Plus a Full-Time Aide on Kindergarten Reading Readiness Achievement (under the direction of DR. PAUL MADDEN and DR. HELEN BAIN.)**

One hundred and forty teachers participating in the first year of Project STAR (Student Teacher Academic Ratio) in 1985-86 submitted for 2,837 kindergarten students data indicating mastery or non-mastery of the 25 reading readiness objectives of the Tennessee Basic Skills First program. Project STAR is a four-year \$12 million dollar longitudinal study of class size funded by the Tennessee General Assembly.

Data were analyzed using a five-way analysis of variance and a crosstabulation procedure with a chi-square test of significance. A statistically significant relationship was found between small class size and reading readiness achievement in the total 25 tested Basic Skills and the subcategory of the 20 comprehension skills at the .01 level of significance. The 1:15 class mastered one more objection than the 1:25 class and .6 more of an objective than the 1:25 plus a full-time aide class. No significant relationship was found between classes of 1:15, 1:25, or 1:25 plus a full-time aide and the mastery of the 5 word identification skills. The 1:25 class was found to be least effective in achieving reading readiness. Students achieve better in all three types of classes when they are present over 90 percent of the time. Students in classes of 1:15 who attended 90 percent of the time showed the greatest gain. The statistically significant relationship was found between sex, race, socioeconomic status, geographic localities, and achievement in the three reading readiness areas analyzed. Within each variable category, the lowest mean scores in the 25 total Basic Skills and the 20 comprehension skills were for males, blacks, free/reduced lunch, and inner-city students in the 1:25 class, and the highest scores for this group were in the 1:15 class. It would seem from this study that it would be most cost effective if this group were in a 1:15 class.

#### **The recommendations include:**

- 1. Kindergarten should be mandatory.**
- 2. Pupil/teacher ratio should be 1:15 for kindergarten students.**
- 3. Teachers should be trained to:**
  - a. Utilize small group instruction.**
  - b. Utilize home visits and parent training to reinforce readiness skills.**