P r o j e c t S T A R

THE STUDENT/TEACHER ACHIEVEMENT RATIO STUDY
Tennessee, 1985 - 1989

WHAT IS STAR?:

- A large-scale, four-year, longitudinal, experimental study of reduced class size, that is considered "one of the most important educational investigations ever carried out and illustrates the kind and magnitude of research needed in the field of education to strengthen schools." [Frederick Mosteller, Professor Emeritus of Mathematical Statistics at Harvard University (Summer / Fall 1995). *The Future of Children: Critical Issues for Children and Youths*, 5(2), p. 113-127.]
- Sound research which "leaves no doubt that small classes have an advantage over larger classes in reading and math in the early primary grades." [Finn, J. D., & Achilles C. M. (1990, Fall). Answers and questions about class size: A statewide experiment. *American Educational Research Journal*, 27(3), 557-577.]

WHY WAS STAR NEEDED?:

- Legislators and school administrators doubted the significance of smaller classes because there was no scientific evidence to prove that class size makes a difference in student accomplishments.
- STAR was needed to determine the value of small class size in student achievement and learning during the early grades of public schooling.
- The study was conducted at the elementary-school level because this is where the foundation is laid for children's success in school.

HOW WERE STAR FUNDS OBTAINED AND USED?:

- Dr. Helen Pate-Bain presented Tennessee Legislators with the positive results from her class-size study that had been conducted within one Metropolitan Davidson County school. Pate-Bain successfully lobbied $12 million dollars to complete STAR.
- Out of $12 million, $9,679,879 were used for teacher and teacher aide salaries. Salaries and benefits for research personnel, travel, printing, communication and shipping, maintenance, supplies, and rentals and insurance totaled $2,311,003.

HOW WAS THE STAR STUDY DESIGNED?:

- All schools were invited to participate.
- Each school had to have at least one of each of the three class types: small (13 to 17 students), regular (22-26 students), and regular with a full-time teacher aide (22-26 students) for the within school design.
- The study included 79 schools in 42 systems which resulted in over 6,000 students per grade level.
- Schools from inner-city, rural, urban, and suburban locations were included in the experiment.
- All students and teachers were randomly assigned to their class type.

WHAT WERE THE FINDINGS FROM STAR?:

- At each grade level (K-3), and across all school locations, the small classes made the highest scores on the norm-referenced Stanford Achievement Test (SAT) and the criterion-referenced Basic Skills First Test (BSF). These results were both statistically and educationally significant.
- Small classes located in the inner-city schools made the greatest gain scores on the SAT.
- Small classes located in rural schools made the highest SAT and BSF scores.
- The only consistent positive regular-aide class effect occurred in first grade.
- Teachers reported that small classes helped them to better identify student needs, allowed them to provide more individual attention, and enabled them to effectively cover more material.

WHAT POLICY IMPLICATIONS RESULTED FROM STAR?:

- Tennessee allocated remaining funds from Project STAR, and additional funds, to reduce the student/teacher ratio in all K-3 classes for school systems located in counties with the lowest per capita incomes.
- Tennessee's school finance plan, the Basic Education Plan, includes incentives for school systems to reduce class sizes to 20 or fewer students in the early primary grades (K-3).
- Over 20 states have used the STAR findings to initiate steps toward smaller classes.

WHAT IS THE CURRENT STATUS OF PROJECT STAR? :

- Through the eighth grade, STAR follow-up studies showed small-class students continually outperforming their peers who had attended regular and regular-aide classes on standardized achievement tests.
- HEROS, Inc. analyzed available ninth and tenth grade test-score data, and conducted a pilot study to determine if there are long-term social benefits associated with class size. Results from the pilot study indicated that more students from small classes enrolled in college-bound courses (e.g., foreign languages, advanced math and science), and had higher grade point averages than those who had attended regular or regular-aide classes. Findings also suggested that small-class students progress through schooling with fewer special education classes, fewer discipline problems, lower school dropout rates, and lower retention rates than their peers who had attended regular-size and regular-size classes with full-time teacher aides.
- The Tennessee Legislature has funded HEROS, Inc. to conduct the eleventh-grade STAR follow-up study. Research began January, 1998.

For more information on Project STAR, please contact: Helen Pate-Bain, Chair or Jayne Boyd-Zaharias, Director, Health & Education Research Operative Services (HEROS), Inc., 213 Cumberland Drive, Lebanon, TN 37087, phone: (615) 449-7904, e-mail: heros@telalink.net
HEROS, Inc. is a 501 (c) (3) nonprofit organization.