ANCHORAGE SCHOOL DISTRICT
ANCHORAGE, ALASKA

ASD MEMORANDUM #131 (2002-2003) December 9, 2002

TO: SCHOOL BOARD

FROM: OFFICE OF THE SUPERINTENDENT

SUBJECT: PRIOR APPROVAL OF DISCRETIONARY GRANT: NATIONAL SCIENCE FOUNDATION MATH AND SCIENCE PARTNERSHIP PROGRAM

RECOMMENDATION:

It is the Administration's recommendation that the School Board approve and authorize the superintendent to apply for a grant from the National Science Foundation (NSF) for the improvement of K-8 student achievement in mathematics and science. This competition requires partnerships with institutions of higher education, and calls for enhancement of teaching using best practices in professional development as well as in classroom delivery. The Anchorage School District is the applicant, in collaboration with the Fairbanks North Star Borough School District, University of Alaska system, and Alaska Pacific University. The model is a revision of the District's spring 2002 application to the NSF. The partnership will propose a five-year process for significantly improving the performance of the learning communities of teachers and students through professional development.

PERTINENT FACTS:

Math and Science Partnership projects are expected to reduce achievement gaps in the mathematics and science performance of diverse student populations, as required in the "No Child Left Behind" legislation. The program seeks to improve student achievement by focusing on three inter-related issues:

- Ensuring that all students have access to, are prepared for, and are encouraged to participate and succeed in, challenging and advanced mathematics and science courses;
- Enhancing the quality, quantity and diversity of the mathematics and science teacher work force; and
- Developing evidence-based outcomes that contribute to our understanding of how students effectively learn mathematics and science.

The grant program specifies that university faculty in the mathematics, science, and engineering disciplines who work with public school teachers in the project also change their practice. An ultimate outcome will be institutional improvement for all partners.

The preliminary budget estimate is $2.5 million each year. This amount funds staff, including one math and one science teacher expert; and development of model teachers and teacher teams, at one to three teachers at each elementary and middle school in the participating districts. These teachers will be compensated primary through contract addenda. However, the budget includes release time for the model teachers and teacher teams at one day per quarter. Much of the release time will be divided up through one or two-hour blocks of time during that day in any single school for peer coaching/mentoring. This approach minimizes substitute time while maximizing its effectiveness. The number of schools and model teachers will be cumulative over the five years. Communication among partners and across classrooms will be facilitated by cost-effective distance delivery methods. Summer sessions also will be offered. Model teachers and teacher teams will be self-selected. Moreover, the grant will provide for elective administrator, counselor, and paraprofessional professional development. Finally, the grant will compensate university faculty; will help establish web-based distance delivery; and will provide materials for professional development and for classroom use.

Assessment of teacher learning and application will be provided through a model that examines five levels of professional development: 1. Participants' reactions; 2. Participants' learning; 3. Participants' use of new knowledge and skills; 4. Organizational support and change; and 5. Student learning outcomes. Each level requires formative evaluation, as well as summative evaluation to determine overall effectiveness. The primary measure of student learning will involve comparing student achievement scores using both the Alaska State Benchmark exams and the Terra Nova/CAT 6 test. Data will be disaggregated by gender and ethnicity for a more complete analysis and comparison with specific measurable performance objectives. Data will be further broken down by "students of participating teachers" and students of non-participating teachers."

CC/JC/DC/GR/SS/BT

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