

JAVITS PROGRAM SUPPORTS HIGH-ABILITY LEARNERS FROM UNDER-REPRESENTED POPULATIONS

Although gifted and talented learners are in every school, and in every segment of the student population, as NAGC Past President Joyce VanTassel-Baska puts it, “talent-find mechanisms have not systematically tried to find promising learners from less than promising circumstances.” All too often, the gifts and talents of economically disadvantaged students go unrecognized and undeveloped because challenging educational experiences are not available and erroneous assumptions persist regarding these students’ abilities.

The Jacob Javits Gifted and Talented Students Education Act (Javits) was created in 1988 to support the development of talent in our nation’s schools, and focuses its resources on children from backgrounds that have traditionally not been included in gifted education programs, particularly those who are disadvantaged economically, minority, or disabled, or those who are limited English proficient. Through a system of grants and a national research center, which conducts research and disseminates findings, the Javits Act enhances the ability of elementary and secondary schools to meet the special educational needs of gifted and talented students.

The competitive grants awarded under the Javits Act have explored numerous strategies to modify the procedures and instruments used to identify gifted learners, to prepare teachers, to change attitudes and expectations of school personnel, frequently the gatekeepers of gifted education, about the nature of giftedness, and to incorporate gifted education pedagogy into regular classrooms to improve total student achievement. Other grants have contributed to the knowledge base about the characteristics, needs, and challenges in serving special populations of gifted children. Below are some of the results of the Javits grant-funded projects:

USING ADVANCED CURRICULUM TO IDENTIFY GIFTED STUDENTS AND/OR TO INCREASE THE PERFORMANCE OF ALL STUDENTS

To address the vexing issue of under-identification of low-income, minority gifted learners, several projects focused on using curriculum and instruction typically reserved for gifted and high-achieving students with all students, coupled with specialized teacher training, as a means to identify high-ability learners and to improve the achievement of all students.

Project Athena uses advanced curriculum in language arts to improve performance in vocabulary, reading comprehension, and critical thinking for nearly 1500 economically disadvantaged promising students in grades 3-5 in Title I classroom settings in **Virginia**, **Maryland**, and **South Carolina**. The project also developed a test instrument for purposes of identification and assessment of learning that is sensitive to low-income students. The project’s use of the new assessment instrument and multiple criteria for identifying gifted learners identified a higher frequency of students as gifted when compared to the school district’s regular measurements. Additionally, students in the project showed significant learning gains in critical thinking and on the reading comprehension portion of the Iowa Test of Basic Skills.

Scientists-in-Schools (SIS) integrates teacher training and accelerated/enriched science experiences for middle and high school students in Beaumont, **Texas**, from backgrounds frequently underrepresented and underserved in advanced science programs. The project uses the research inquiry model and incorporates Saturday seminars and summer courses for the students, professional development for their teachers, and seminars for parents to demonstrate

the inquiry process and discuss the process of making applications and securing scholarships for higher education.

Project SIS outcomes include significant increases in science achievement and number of completed science courses for participating students; increases in the percentage of low income, minority students identified as gifted and talented; increases in high school graduation rates; and increases in the numbers of students applying to colleges or universities selecting science as a future career choice. Indeed, in 2005, all 60 of the experimental group graduated from high school, enrolled in a science course each year, applied to colleges and universities, and 52% identified science as a career focus.

Project Breakthrough used advanced curriculum units in science and social studies that utilize problem-based and inquiry approaches to learning with low-income minority students in two elementary schools in **South Carolina**. Teacher training focused on utilizing instructional approaches that challenge students thinking and changing teacher attitudes about students' abilities. Over three years the results shows that overall student achievement increased and that students that had been categorized as low achieving before the project began made the most significant achievement gains. The project challenged teachers' assumptions about minority and low-income students. In interviews, teachers described their gradual awareness that they had been underestimating their students, and that the quality of student responses vary depending on the quality of the questions asked.

Project M³ (Mentoring Mathematical Minds) examines mathematics achievement and attitude in 200 students in grades 3-5 in schools of varying socioeconomic levels in **Connecticut** and **Kentucky**. The project identified a broad talent pool of mathematics aptitude and the students receive mathematics instruction on algebraic reasoning, geometry and measurement, and data analysis and probability that is several years beyond their grade level standards. Extensive professional development is offered to enhance the curriculum's effectiveness. Many of the students selected were struggling in other courses and their math potential had gone unnoticed. However, teachers report that students have gained confidence and interest in school, which has spilled over into their other courses. The students seem to enjoy the challenging group work. One girl, who spent part of her third grade year in regular math and part in an M³ classroom said, "I'd just zip through [the regular math] in five minutes and have to wait half an hour for everyone to finish. It gave me headaches when I had to do the same things over and over again, honestly." The results have shown highly significant gains on the math sections of the Iowa Test of Basic Skills and open-ended questions on the TIMSS and NAEP assessments compared with the control group. Although the test scores are important, project leaders see tremendous growth in mathematical discourse in the project classrooms. Students are thinking and talking as real mathematicians do.

Project SAIL (Students' Active Interdisciplinary Learning) Based on the concept that mathematics instruction is highly sequential, with concepts building on previous work, and that advanced students often must wait for classmates to complete their work before the entire group moves on, *Project SAIL* sought to identify and nurture mathematic talents in economically disadvantaged students through the use of a highly sequential, individualized mathematics program that allows for self-paced acceleration.

The project worked with students in grades 2-4 in an urban school setting with predominantly low-income students. One classroom (of four) per grade participated in the individualized project work in addition to their regular mathematics classes. All of the students were performing below grade level expectations at the beginning of the project. After only one year, 60% of the project group advanced two or three grade levels of mathematics, while only 41% of the control group demonstrated such advances. Also important to note is that students retained what they learned. Two years after participating in the project, students scored significantly

higher on the mathematics portion of the Iowa Test of Basic Skills than students that had not participated in the project.

CHAMPS (Creating High Achievement in Mathematics, Problem-Solving, and Science) is a comprehensive program of identification, student service, and teacher training that targets students in the 23 poorest school districts in **Mississippi**. Intensive teacher training focused not only on high-level content and creative, hands-on teaching methods in math and science, but also on dispelling myths and changing attitudes about gifted students. The result was that over the three years of the program, the number of students identified as gifted increased from 4 to 26 students. Additionally, middle school students demonstrating ability in math and science were offered the chance to participate in a summer residential program led by university faculty. The students are encouraged to apply for admission to the state's school for math and science, a public residential school for gifted students in grades 11 and 12.

ALTERNATIVE STRATEGIES TO IMPROVING IDENTIFICATION OF GIFTEDNESS IN UNDERSERVED POPULATIONS

After participating in an early Javits grant, the state of **Georgia** began implementing what is now called the "multiple-criteria eligibility model," to assist in the identification of underserved gifted and talented children. In the nine years since implementing this strategy, Georgia statewide has seen a 206% increase in the number of African-American children and a 570% increase in the number of Hispanic gifted children participating in gifted education programs. The multiple-criteria strategy has been adopted as a model in numerous states.

Project La Jornada serves a multicultural, sparsely populated region of **New Mexico** and addresses not only the shortage of teachers with sufficient training in gifted education, but also the low percentages of Hispanic, Native American, and African American students for gifted education programming. Alternate assessments are needed, and training in the DISCOVER strategy, among others, is planned. (Project DISCOVER was first funded as a Javits grant in 1996. The project validated the DISCOVER assessment processes as an alternate assessment tool for underserved minority and low-income students. The tool identifies students who are able to solve complex problems, based on the theory of multiple intelligences.) The Roswell school district was involved in the original DISCOVER Javits grant, and is participating in *La Jornada*. Using DISCOVER, the district has been able to increase the percentage of Hispanic students identified as gifted and talented from 23.6% to 36%. Additionally, six of Roswell's teachers are currently enrolled in graduate level courses to earn an endorsement in gifted education.

BROADENING THE KNOWLEDGE BASE ON SPECIAL POPULATIONS OF GIFTED LEARNERS

The **Iowa Alternative Schools Project** seeks to learn more about a population of students rarely discussed: those in alternative school settings. Indeed, prior to this project, virtually no information about talented students in alternative schools was available. Project leaders were able to confirm that there are gifted and talented students in alternative school settings, in spite of their backgrounds and their life difficulties. They also have found that alternative school teachers need training to recognize and support these learners, as well as to devise appropriate curriculum and service options. Now, for example, for the first time, alternative school students are participating in a statewide online Advanced Placement Academy.

Project REAL (Rural Education for Accelerated Learners) is assisting schools and families in rural **Pennsylvania** to better serve the academic needs of rural gifted students. The project increased the state's capacity to provide effective rural gifted education programs by collaborating with the state education agency, expanding the regional network of service

delivery and teacher training to include training in gifted education strategies, and establishing high level math and science elementary summer gifted programs. A Center for Rural Gifted Education at Indiana University of Pennsylvania (IUP), which hosts conferences for administrators, teachers, and families, among other services, and facilitating information sharing by launching a website and electronic bulletin board have also been developed under the grant.

In addition to positive comments about incorporating some of the gifted education's best practices into curriculum and instruction for all of his district's 1200 students, one of the participating superintendents said, "Project REAL is a step in the right direction that allows up to begin to reverse the 'brain drain' that has become such a concern in Western Pennsylvania."

NATIONAL RESEARCH CENTER ON THE GIFTED AND TALENTED: FORGING LINKS BETWEEN RESEARCH-BASED TEACHING, LEARNING, AND PROFESSIONAL GROWTH

Professional expertise is not created in a vacuum. School personnel need access to accurate, scientifically based research to make gifted programming decisions and provide professional growth opportunities for teaching staff. To that end, the Javits Act established the ***National Research Center on the Gifted and Talented (NRC/GT)*** to provide a forum for researchers, practitioners, policymakers, and others to work together to design and conduct research and ensure that it informs educational policy and practice. Research and dissemination efforts associated with the Javits Act have resulted in new information about the effective use and benefits of several instructional strategies -- including the need for ongoing professional growth opportunities for educators who work with gifted students.

The *NRC/GT*, which is located at the Universities of ***Connecticut*** and ***Virginia***, has been a critical resource for education professionals across the country. In addition to countless phone calls, the *NRC/GT* receives more than 500 email requests for information and assistance each year. Staff annually makes approximately 200 presentations across the country on research projects and other resources available from the *NRC/GT*. Additionally, in the past two years, *NRC/GT*-sponsored research and materials have been disseminated through more than 350 journal and magazine articles, books, and papers.

Many of the curriculum projects, instructional strategies, and best practices developed under the auspices of the Javits grants and the *NRC/GT* have an impact well beyond the term of the grant. Teacher training to dispel assumptions about what disadvantaged students are capable of doing, for example, has a long-term effect on teacher practice; high-level curriculum developed under various grants more than a decade ago is being used across the nation and continues to have a positive impact on student learning; and assessment tools and strategies developed to expand our conception of giftedness and to provide more opportunities for more students to experience challenging, advanced schoolwork are available to school administrators seeking to expand gifted and talented programming and services. As a result of the Javits program, gifted education is contributing to the improvement of all learners in public schools; the Javits projects and the *NRC/GT* are demonstrating that it can be done and how to do it.