California Postsecondary Education Commission

The Improving Teacher Quality Program -- An Update

March 2006

A new Request for Proposals (RFP) targeted to the retention of science and mathematics teachers is the Commission's most recent initiative under the federal Improving Teacher Quality Program. This report summarizes that initiative and reports on other current activities in the program.

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The Commission advises the Governor and Legislature on higher education policy and fiscal issues. Its primary focus is to ensure that the state's educational resources are used effectively to provide Californians with postsecondary education opportunities. More information about the Commission is available at www.cpec.ca.gov.

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Introduction

One important issue that is receiving attention at both the national and state levels is the need to improve teaching in science and mathematics and to address the shortage of qualified science and mathematics teachers in California schools, particularly secondary schools. There is a growing sense of urgency that our national competitiveness depends on improving science and mathematics education. The President launched the American Competitiveness Initiative in his recent State of the Union Address and included a commitment to fund more teacher training. California was already moving to increase the supply of teachers with the 2005 California Science-Mathematics Initiative. The state's goal is to double the number of science and mathematics teachers produced by the University of California and the California State University within five years. Other initiatives exist to improve science and mathematics instruction and increase the supply of new teachers.

It is clear, however, that we cannot successfully address the shortage of California science and mathematics teachers if we do not address the attrition rate among teachers already in the classroom. Although it's not possible to determine the exact number of California teachers who leave the profession, recent studies suggest that about 4.5% of all teachers leave each year. Based on anecdotal information about an even higher rate of attrition for science and mathematics teachers, we estimate that some 5% of those teachers leave the classroom annually, which potentially increases the existing shortage by more than 1,600 teachers.

New Initiative Launched

Recognizing that teacher attrition contributes to the shortage, the Improving Teacher Quality Program is uniquely situated to provide resources to help address the problem. This has resulted in a 2006 initiative to direct professional development activities toward retention of existing science and mathematics teachers. The effort focuses on career situations where the risk of attrition is particularly high: teachers in the induction period or the year or two *immediately following* induction; teachers who are close to but have not yet reached fully credentialed or highly qualified status under No Child Left Behind Act (NCLB); and teachers in high poverty, high-need schools. A 2006 study by the Public Policy Institute of California (PPIC) shows that professional development programs can be more effective than teacher compensation packages in retaining teachers. PPIC's conclusions resulted from a review of the Beginning Teacher Support and Assessment Program (BTSA), which is available to most California teachers during their induction period. The PPIC report also supports increased attention to professional development in general, including the restoration of programs for current teachers in schools that have experienced deep funding cuts in recent years.

In an effort to jumpstart this initiative and to take advantage of proven expertise in professional development, the Commission staff has determined that the most effective and efficient method is to make two awards—one in science and one in mathematics—to *master grantees* who will award sub-grants to specific projects. Those eligible for master grants must be consortia or collaboratives of university-based professional development providers with a demonstrated capacity for running internal grants competitions, providing high quality professional development to low performing schools and districts, monitoring site performance, conducting research, and reporting results to the field.

Proposals under the RFP must be submitted by March 31, 2006. We anticipate awarding two master grants by the end of April and will require that sub-grantees be selected in time to get their projects underway by fall of this year. It is expected that 10 to 12 projects of up to $100,000 each will be funded through each of the two master grants. Each sub-grant must involve a partnership of an Institution of Higher Education and a high-need Local Education Agency. The total program is anticipated to last five years, with the final year dedicated to completing the evaluation research and producing information designed to help educators understand the relationship between the professional development strategies used in the projects and teacher retention.

Status of 2005 Grants

As reported to the Commission in December, eight awards were made in November to grant projects targeted to academic literacy in secondary education. These projects extend from the Redwood Empire in northern California to Orange County in southern California and seek to improve academic literacy in a number of high school subjects. Both aspects of this initiative are consistent with national and state educational priorities—the role of literacy in all subject areas, and the need for reform in secondary education. These were the first set of grants to require, as a part of the project, research that evaluates the effects of the projects on student achievement and reflects the emphasis on scientifically-based research that underlies NCLB.

All the projects have begun their efforts to recruit teachers, develop curriculum materials, and plan for their initial training sessions. All project and research directors met in January to discuss project administration and to explore ways we can build community among the projects. This latter effort—which may involve further meetings and new strategies for communication—will enable projects to share what they learn and to support each others' efforts in their common work. Targeting projects to a similar or common goal provides opportunities for synergistic efforts that can inform future work in teacher professional development.

Status of 2003 and 2004 Grants

A number of grant projects in several categories that were funded in 2003 and 2004 recently ended or are still in operation. Projects in the first category—sixteen grants that began at the start of 2004—are now in their third and final year. These include projects in a variety of areas: teacher pipelines from high school through credentialing; utilization of technology for delivery of services; and strengthening teaching in math, science, and other subjects. These projects are generally progressing well, but are encountering some challenges. One of the biggest problems is that they are located, as required by law and by this program's long-time philosophy, in high-need schools, many of which are now designated as "program improvement" schools under state or federal accountability requirements. The demands placed on these schools have made it harder for districts to maintain their commitments to the projects, and have placed competing demands on teachers. It is not certain what the eventual effect on the projects will be.

The second category consists of seven augmentation grants in which an additional year of funding was provided to projects that began in 2001. Projects in this category concluded late last year. This additional year of funding was designed to help projects sustain their work after the grant funding ended and to disseminate their results. The projects were generally very successful. Some examples include:

- The Mountain Region Science and Reading Academy in the Tahoe-Truckee Unified School District, where a science and reading science course at North Tahoe Middle School will be continued, and where teachers are implementing hands-on science units in their classrooms on an ongoing basis.
- The Teaching-Learning Collaborative augmentation in Garvey Elementary School District in Los Angeles, which expanded a successful professional development process from science to mathematics, and which helped leverage additional California Math-Science Project funding for two additional school districts.
- ArtsCore Dissemination, which took a highly successful model for training secondary teachers on how to integrate the arts into other subjects, expanded it into elementary schools, and trained master teachers to continue the work in the future. A new journal on learning through the arts is expected to disseminate information on project outcomes as well.
- A project to develop teacher and student researchers through California State University Northridge and the Los Angeles Unified School District has generated a Journal of Student Research Abstracts that reports on student and teacher projects. It also found a publisher that will make the Journal available on the Internet and distribute copies to teachers and students who request them.

The third and final category of existing grants includes a small number of scientifically based research grants managed by the Assessment and Dissemination Team that are concluding this year. This research effort was somewhat of an experiment itself; it was launched in 2003 to collect data and draw conclusions about the effectiveness of several existing projects. Preliminary results suggest that such evaluation research is more effectively built into a project from the start, as the Commission has required in the 2005 grants. However, these research grants will provide useful information on the effectiveness of certain professional development strategies and lessons for the structure of future grants.

Conclusion

The Improving Teacher Quality Program continues to evolve as it fully transitions from its previous identity as the Eisenhower Program into its new format under NCLB. Since late 2004, Commission staff has published and disseminated an informational brochure on the program; completed one competition cycle; launched another RFP for master grantees; monitored ongoing projects; and dealt with numerous fiscal and program reports and issues from the grantees. The Commission has shifted the model for the awarding of funds from the single large, non-specific RFP to a series of more targeted and diverse forms of competition that incorporate a research component. In these types of projects, the leadership role that colleges and universities can take in partnerships to improve teacher quality in California becomes even more important. In addition to providing services to California educators, the Commission expects to learn more about what works in professional development. That, in turn, will directly contribute to improving student achievement—the ultimate goal.