NO CHILD LEFT BEHIND ACT (NCLB): IMPROVING TEACHER QUALITY STATE GRANT PROGRAM FISCAL YEAR 2007 GRANT ALLOCATION - PHASE II

Submitted for: Action.

Summary:

This item recommends approval of the second fiscal year 2007 allocation of grant funds for the NCLB - Improving Teacher Quality State Grant Program. This federally funded grant program is authorized under the No Child Left Behind Act of 2001. The NCLB - Improving Teacher Quality State Grants are provided to eligible partnerships comprised of Illinois colleges and universities (including community colleges) and high-need Illinois public school districts. The first allocation of fiscal year 2007 grants was approved by the Board of Higher Education at its March 27, 2007 meeting.

Program Purpose:

- Improve teacher and principal quality through researchsupported innovation in teacher and principal preparation programs.
- Increase the number of highly qualified teachers in the classroom and highly qualified principals and assistant principals in schools.
- Foster an environment of collaboration among P-12 school districts and universities and their units that prepare teachers and school administrators.

Program Benefits:

- Supports partnerships that improve teachers' knowledge
 of subjects they teach and improves the abilities of
 higher education institutions to prepare quality teachers
 for our schools.
- Enables students to meet the Illinois Learning Standards in core academic subject areas and teachers to demonstrate the skills, knowledge and traits of highly qualified teachers.
- Supports activities designed to increase administrator knowledge of instructional and curriculum leadership.
- Enhances assessment of learning and teaching at all levels.

Action Requested:

That the Board approve the allocation of \$1,694,245 in NCLB - Improving Teacher Quality grants to the six eligible partnerships specified in this item.

STATE OF ILLINOIS BOARD OF HIGHER EDUCATION

NO CHILD LEFT BEHIND ACT: IMPROVING TEACHER QUALITY STATE GRANT PROGRAM FISCAL YEAR 2007 GRANT ALLOCATION – PHASE II

Background

Since fiscal year 2004, the Illinois Board of Higher Education (IBHE) has awarded competitive teacher and principal professional development grants to eligible partnerships comprised of colleges and universities and high-need public school districts located across the State of Illinois. A major change instituted in fiscal year 2007 is the requirement of an external evaluation jointly agreed to by the project directors and the Board of Higher Education. Grantees were asked to allocate three to six percent of their approved grant awards for the evaluation and dissemination of their project's outcomes.

Purpose of the NCLB Improving Teacher Quality State Grant Program

The Improving Teacher Quality State Grant Program (ITQ) authorized under Title II, Part A, of the No Child Left Behind (NCLB) Act of 2001 supports professional development and teacher and school leader preparation activities across all core academic subject areas to assist schools in increasing academic achievement of all students and in the preparation of highly-qualified teachers and school leaders. Partnerships made up of institutions of higher education and high-need school districts provide professional development aimed at improving and increasing teacher and school leader knowledge in core academic areas. Partnerships focus on effective, scientifically research-based instructional strategies aligned with the Illinois Learning Standards for core academic subject areas and the Illinois Professional Education Standards leading to improved student achievement.

The Illinois State Board of Education (ISBE) administers approximately 97.5 percent of the Title II, Part A funds available to the state through formula-driven grants to elementary and secondary schools. The Illinois Board of Higher Education (IBHE) distributes the remaining 2.5 percent through competitive grants to eligible partnerships.

Eligible Applicants

Applicants eligible for Improving Teacher Quality State Grant Program grant funds, as defined by the U.S. Department of Education, must be partnerships comprised of, at a minimum:

• An approved public or private institution of higher education and the division of the institution that prepares teachers and principals;

¹ The NCLB Act of 2001 was signed by President Bush on January 8, 2002 and amends the Elementary and Secondary Act (ESEA) of 1965.

- A school of arts and sciences; and
- A high need Illinois public school district. A high need public school district is defined as a school district that a.) serves not fewer than 10,000 families with incomes below the poverty line, or for which not less than 20 percent of the children served by the district are from families with incomes below the poverty line; and b.) for which there is a high percentage of teachers not teaching in the academic subjects or grade levels that the teachers were trained to teach, or for which there is a high percentage of teachers with emergency, provisional, or temporary certification or licensing.

Funding Priorities for Grant Applications

Priority consideration is given to proposals that target one of more of the professional development opportunities for:

- Low performing schools;
- Projects that help to provide middle and high school mathematics and science teachers with the tools and knowledge for students to meet the standards in order to be prepared for college-level mathematics and science courses;
- Teacher recruitment and/or induction activities;
- Projects that increase opportunities for access of teachers and student from historically underrepresented and underserved groups;
- Projects that support science teachers across grade levels to better integrate mathematic concepts into the science curriculum

In addition, federal guidelines state that "State agencies of higher education (SAHE) should demonstrate leadership in identifying for grantees and prospective applicants scientifically based professional development that is effective in increasing student academic achievement." This may be demonstrated by:

- "Conditioning a partnership's receipt of a subgrant on its submission of specific information confirming that the school of education and the school of arts and sciences will embed the professional development into the teacher preparation program."
- "Requiring partnerships applying for subgrants to offer a work plan and commitment of institution of higher education (IHE) funds (or provide a competitive preference to those that do) for improving specific aspects of the teacher preparation program."

To this end, grant applicants are required to provide evidence of a process through which project activities for professional development link to and inform the curricula and pedagogy of teacher and/or principal preparation programs at their IHE.

State Priority for Developing Collaboration Models

A primary focus of ITQ funding for the State of Illinois is the development or continuation of strategic alliances based on collaboration that allows professional development activities to continually inform teacher and principal preparation program curricula and pedagogy in a continuous feedback loop. Kagan² defined collaboration as "organizational and inter-

_

 $^{^2}$ Kagan, S. (1991). United we stand: Collaboration in childcare and early education. New York: Teachers College Press, 3.

organizational structures where resources, power, and authority are shared and where people are brought together to achieve common goals that could not be accomplished by a single individual or organization independently." Collaboration falls across a continuum from low to high integration. Peterson³ points to three points along this continuum beginning with cooperation, whereby fully independent groups share information that supports each other's organizational outcomes; moving to coordination, whereby independent parties align activities or co-sponsor events or services that support mutually beneficial goals; to collaboration, where individual entities give up some degree of independence in an effort to realize a shared goal. To assist grant applicants in clearly understanding multi-institutional collaboration, a white paper describing the collaborative hierarchy and components was developed for reference in the development of grant proposals.

Grant Application and Review Process

Proposals were externally reviewed by 3-member teams of experts from secondary and postsecondary education with backgrounds in professional development and grant administration. Proposals were evaluated against a common rubric developed in cooperation with the Center for the Study of Education Policy at Illinois State University; assessment values were based on the following review criteria:

- Collaborative Planning: How well does the proposal provide clear evidence of involvement of all partners including teachers, administrators, and institutions of higher education in the collaborative design of the Improving Teacher Quality State Grant Program?
- **Need for Professional Development:** How well does the proposal provide clear evidence of the K-12 school students' and educators' need for professional development?
- Eligible Project Activities: How well does the proposal clearly explain how the professional development activities can produce long-term, systemic change, and include goals, objectives, and activities that reflect a program of sufficient duration, size, scope and quality that, if implemented, will yield improvements in teaching and learning? Does the proposal explain how the professional development activities are based on research and proven to increase student achievement?
- **High Priority Activities:** How well does the proposal incorporate appropriate elements to address the high priority considerations?
- Evaluation Process: How well does the proposed evaluation process assess the effectiveness of the activities in relation to the goals and objectives in producing improvements in teaching and learning? Is a reputable external evaluator identified?
- **Budget**. How well does the proposed budget reflect cost-effectiveness and demonstrate consistency with the scope of the proposed objectives and activities?

³ Peterson, N.L. (1991). Interagency collaboration under Part H: The key to comprehensive, multidisciplinary, coordinated infant/toddler intervention services. Journal of Early Intervention, 15, 89-105.

Summary of Applications

In November 2006, Board staff released the FY2007 NCLB ITQ Phase I Grant Request for Proposals (RFP). An ITQ Phase II RFP was released on May 10, 2007. Table 1 shows that thirty-five grant proposals requesting \$9.2 million in funding were received in response to the fiscal year 2007 RFPs. Because of limited funding, IBHE staff is not able to recommend all the high-quality projects that were submitted.

Table 1

# Projects Phase Received		Amount Requested	# Projects <u>Funded</u>	Amount Funded	
I	23	\$5.8	6*	\$1.3	
II	12	\$3.4	6	\$1.7	
Total	35	\$9.2	12	\$3.0	

^{*} Includes two renewals.

Supporting P-20 Linkages - STEM

The Improving Teacher Quality Grant projects presented in this item serve to advance the Board's policy agenda of strengthening P-20 educational opportunities and collaboration across the entire state educational system. Each partnership includes members from a College of Education, College of Arts and Sciences, and a high-need K-12 public school or district. The recommended projects will serve teachers and students in both urban and rural settings throughout Illinois. Partnership members are required to collect and maintain accountability data, measure project impact on increasing teacher and school leader knowledge through professional development as well the impact on improving student academic achievement, and provide feedback to the university to strengthen teacher and/or school leader preparation. Each partnership will be required to participate in support and networking opportunities targeted at developing sustainable partnerships, developing and collecting program accountability data, evaluating program results, and demonstrating project institutionalization.

Summary

Each of the partnerships recommended for funding on Table 2 provides high-quality, research-based professional development aimed at improving teacher quality, academic achievement of elementary and secondary students across Illinois, and teacher preparation programs across the state. While these NCLB grants can support professional development across all core academic subject areas, the majority focus on professional development for teachers of mathematics and science, an area of identified need throughout Illinois. Accompanying this item as Appendix A is a listing of more detailed information for each partnership being recommended for funding. The informational items include:

- Lead Institution
- Project Title

- High Need School District
- Partnership Members
- Core Academic Areas
- Grade Level
- Grant Amount
- Project Director
- Project Synopsis

The staff recommends the adoption of the following resolution:

The Illinois Board of Higher Education hereby allocates Fiscal Year 2007 Phase II grants totaling \$1,694,245 for the No Child Left Behind - Improving Teacher Quality State Grant Program to the institutions specified and in the amounts shown in Table 2.

Table 2

ILLINOIS BOARD OF HIGHER EDUCATION

NCLB - IMPROVING TEACHER QUALITY STATE GRANT PROGRAM

FISCAL YEAR 2007 - PHASE II ALLOCATION

Board Item				Request	Recommend
#	Lead Institution	High-Need District	Project Title	Amount	Amount
	Partner Institutions	Partner Districts			
1	U of I - Urbana/Champaign	Danville #118	I-LLINI Partnerships	325,000	325,000
		Urbana # 116			
2	North Central College	CPS #299	ACI's Science and Math Learning Collaborative	325,000	325,000
	Dominican University	Berwyn South #100			
	Illinois College	Beardstown #15			
	Lake Forest College	Jacksonville # 117			
	McKendree College	Meredosia #11			
	Lewis University	Northgreene #3			
	Associated Colleges of Ill.	Scott-Morgan #2			
		Virginia #64			
		Belleville # 118			
3	S I U - Carbondale	Carbondale #95	Rural Access to Mathematics through Professional Development	324,706	324,706
		St. Mark's Lutheran			
			VG 0 CDC D. I . M II 0 T. I C. DD. IT. I		
4	University of Chicago	CPS #299	UC & CPS: Developing Models & Tools for PD and Teacher Preparation	323,856	323,856
	, C			Í	,
5	Chicago State University	CPS #299	Institutionalization of the Chicago Science Van Programs	324,808	324,808
6	S I U - Edwardsville	Cahokia #187	Exploring Science: Improving Science Teacher Quality	70,875	70,875
		East Alton #14			
		40 public schools			
		2 charter schools			
		14 private schools			
			Total Recommendations for FY2007	1,694,245	1,694,245
			Total Recommendations for F 1 2007	1,094,243	1,094,243

APPENDIX A ILLINOIS BOARD OF HIGHER EDUCATION

Fiscal Year 2007 No Child Left Behind Improving Teacher Quality State Grant Program

Phase II

Partnership Profiles

August 14, 2007

Lead Institution: University of Illinois at Urbana-Champaign

Project Title: I-LLINI Partnerships

High Need School District: Danville School District #118

Partnership members: Urbana School District #116

Core Academic Area(s): Math and Science

Grade Level(s): K-12 Teachers

Grant Amount: \$325.000

Project Director: Evangeline Secaras Pianfetti, PhD, Director

Office of Educational Technology

University of Illinois at Urbana-Champaign

Office of Sponsored Programs and Research Admin.

1901 S. First Street, Suite A Champaign, IL 61820-7406

(217) 333-2187 esecaras@uiuc.edu

Project Synopsis: The program, I-LLINI Partnerships: Lifelong Learning IN Illinois for 21st Century Teachers, seeks to establish sustainable models of practice in partnership with Illinois teachers centered on lifelong learning with new media and digital technologies and whose ultimate goal is increased student performance in mathematics, science, and information literacy. The I-LLINI Partnerships bring together faculty in Education and Liberal Arts and Sciences at the University of Illinois at Urbana-Champaign; teachers and researchers in the Office of Educational Technology and the Office of Math, Science, and Technology Education; and teachers from Danville District 118 Schools and Urbana School District 116. These powerful collaborations are dedicated to the improvement of 21st Century schools through the design and implementation of innovative professional development experiences. The I-LLINI Partnerships will: (1) provide innovative, needs-based professional development programs for P-12 teachers and administrators. University content faculty, and University pedagogy faculty that is designed to transform the teaching and learning process through the use of technology-rich learning environments in subject matter classrooms; (2) create enhanced learning environments in high-needs schools through the effective and creative use of new media and digital technologies and characterized by increasing student learning outcomes and developing 21st Century skills such as higher-order thinking, communication, inquiry, and innovation; and (3) strengthen partnerships among all stakeholders in teacher preparation to transform teacher education through the use of information and learning technologies.

Lead Institution: North Central College

Project Title: ACI's Science and Math Learning Collaborative

High Need School District: Chicago Public Schools District 299

Partnership members: The Associated Colleges of Illinois, Dominican University School of Education, Rosary College of Arts and Science. Berwyn South SD 100, Illinois College Department of Education and Division III Social Sciences, Beardstown Community Unit District 15, Jacksonville School District 117, Meredosia-Chambersburg CUSD, Northgreene Unit District 3, Scott-Morgan Community Unit District 2, Virginia Community Unit School District, Lake Forest College Department of Education, Waukegan CUSD 60, Lewis University College of Education and College of Arts and Science, Union School District 81, McKendree College Education Division, and Belleville Public Schools District 118

Core Academic Area(s): Math and Science

Grade Level(s): Other

Grant Amount: \$325,000

Project Director: Ms. Cindy Diehl Yang

Executive Vice President

The Associated Colleges of Illinois

30 North Brainard Street Naperville, IL 60540 (312) 515-2526

kmendoza@acifund.org

Project Synopsis: North Central College and the Associated Colleges of Illinois' (ACI) Center for Success in High-Need Schools request funds for ACI's Science and Math Learning Collaborative (SMLC), a three-year, innovative response to the Illinois Board of Higher Education's (IBHE) No Child Left Behind (NCLB) Improving Teacher Quality State Grant Program to improve mathematics and science proficiencies of in-service and pre-service teachers, and a systemic response to two inter-related problems: the growing shortage of teachers equipped to nurture the math and science interests of minority and low-income girls attending high-need K-12 schools and the concomitant shortage of professionals in the fields of science, technology, engineering, and mathematics (STEM). This collaborative project enlists six ACI member colleges and universities (IHEs) throughout Illinois to: (1) transform teacher education curricula to integrate gender-specific content and pedagogy geared toward influencing the way middlegrade girls in high-need schools experience the study of math and science, and (2) offer professional development to math and science teachers in partner high-need school districts (LEAs). By building a new cadre of highly qualified teachers who can effectively mentor new teachers and motivate more minority and low-income girls to persist in studying math and science in high school and college, ACI's SMLC will support educational improvements that benefit both individual learners and the larger enterprise of teaching and learning in high-need schools.

Lead Institution: Southern Illinois University at Carbondale

Project Title: Project RAMP'D: Rural Access to Mathematics through

Professional Development

High Need School District: Carbondale Elementary School District #95

Partnership members: St. Mark's Lutheran School in Steeleville

Core Academic Area(s): Mathematics

Grade Level(s): K-8

Grant Amount: \$324,706

Project Director: Ms. Susanne C. Ashby, Research Project Specialist

College of Education and Human Services Southern Illinois University at Carbondale

625 Wham Drive Carbondale, IL 62901 (618) 453-8630

(618) 453-8630 calgal@siu.edu

Project Synopsis: Project RAMP'D is a collaborative endeavor in professional development developed by the Carbondale Elementary School District #95 and Southern Illinois University Carbondale's College of Education and Human Services and Mathematics Department for the purpose of improving K-8 student achievement in mathematics. This project proposes an approach to sustainable professional development that encompasses relief of teacher anxiety issues surrounding math, teacher acquisition of mathematical knowledge, and in-depth training and application of the research-based cognitively guided instruction. This professional development approach will serve not only the K-8th grade teachers of the Carbondale Elementary School District #95, but also a consortium of private and faith-based schools in the region. The goals and objectives of this proposal are to: (1) reduce teachers' math anxiety while increasing teachers' confidence in their own ability to apply mathematical skills, concepts and processes to their own learning as well as their classroom instruction; (2) increase mathematical thinking processes of all teachers; and (3) establish a community of practice at each school site through which teachers learn about the development of children's mathematical thinking followed by examination of how their own students think mathematically. Teachers will be administered a battery of assessments to determine their math anxiety levels, their overall math knowledge, and their knowledge of math instruction. From these results teachers will be provided over 80 hours of training and coaching per year to overcome their own personal anxieties, enhance their knowledge base, and to acquire the tools utilized in cognitively guided instruction (CGI) to improve instruction. After engaging in a week-long intensive summer institute, teachers will be observed and coached throughout the school year on the CGI approach to instruction.

Lead Institution: University of Chicago

Project Title: UC & CPS: Developing Models and Tools for PD and Teacher

Preparation

High Need School District: Chicago Public School District 299

Partnership members: Chicago Public Schools Office of Mathematics and Science and

Chicago Public Schools Department of Program Evaluation

Core Academic Area(s): Math and Science

Grade Level(s): K-5

Grant Amount: \$323,856

Project Director: Dr. Timothy Knowles

Lewis-Sebring Executive Director& Senior Research Associate

Center for Urban School Improvement

University of Chicago 970 East 58th Street Chicago, IL 60637 (773) 702-2797

tknowles@uchicago.edu

Project Synopsis: This project brings together the University of Chicago (UC) and the Chicago Public Schools (CPS) in a collaborative effort to improve leadership, instruction, and achievement in mathematics and science in nine CPS elementary schools: three professional development schools and six others. The project also will inform and enhance elementary teacher education programs at UC and elsewhere.

In order to achieve these goals, the project partners will: (1) support implementation of high-quality mathematics and science curricula in participating schools; (2) institute the use of school-based leadership teams in participating schools; (3) create sustainable models for collaboration between PD schools and other schools; (4) develop and disseminate tools (issue-based case studies, classroom vignettes, reading lists, etc.) that can be used in both in-service PD and preservice teacher preparation; (5) use ongoing evaluation and self-assessment to inform all project activities; (6) strengthen the mathematics and science strands of UC's Urban Teacher Education Program (UTEP); and (7) enhance UTEP's model for a pre-service teacher education program embedded in PD schools.

The project will result in (1) better instruction and higher achievement in mathematics and science at the three professional development schools and six other participating schools; (2) tools and knowledge that will be broadly useful in both pre-service and in-service teacher education; (3) improvements in teacher preparation at UC and elsewhere; and (4) institutionalization of program elements at both UC and CPS. The project will significantly affect teachers and leaders at participating schools and graduates of UTEP and also will reach beyond Chicago through a comprehensive dissemination plan for sharing its tools and knowledge.

Lead Institution: Chicago State University

Project Title: Institutionalization of the Chicago Science Van Programs

High Need School District: City of Chicago School District 299

Partnership members: In Search of Genius Foundation and Chicago State University Foundation

Core Academic Area(s): Science

Grade Level(s): High School Teachers

Grant Amount: \$324,808

Project Director: Dr. Mike N. Mimnaugh, Professor of Chemistry

Department of Chemistry and Physics

Chicago State University 9501 S. King Drive Chicago, IL 60628-1598

(773) 995-3894 mmimnaug@csu.edu

Project Synopsis: Since 1993, the Chicago Science Alliance Chemistry Van Program has been serving the needs of Chicago Public High School chemistry teachers and their students. It has accomplished this through a two-pronged approach that includes: (1) professional development training in chemistry for teachers in hands-on, inquiry-based, research-based, grade-appropriate instruction in laboratory science, and (2) assistance to the school district and individual teachers through an in-class, in-service, support program for the implementation of the model instructional program in their classrooms. During academic year 2006-2007, chemistry van personnel made more than 200 visitations to deliver materials and supplies to more than 30 chemistry teachers trained in the program and teaching in 25 Chicago Public High Schools and impacting more than 6,000 students.

The success of the Chemistry Van program spawned requests for a Physics Van and a Biology Van. As a result, a Physics Van program was begun in 2002. During academic year 2006-2007, Physics Van personnel made more than 100 visitations to deliver materials and supplies to more than 15 physics teachers trained in the program and teaching in 15 Chicago Public High Schools and impacting more than 1,500 students.

While the initial acquisition of equipment and supplies for the Chemistry Van Program was accomplished by donations from professional organizations, federal funding agencies, and private companies, funding for the year-to-year operational expenses of both the chemistry and physics vans for the last 12 years has been through the Illinois Board of Higher Education (IBHE) -- first from the Eisenhower Program and more recently from the No Child Left Behind Program. That support came to an abrupt halt when the Van Program's annual application to NCLB for 2007 was not recommended for funding. The halt in support was due at least in part to an IBHE decision that it would no longer support programs on a long-term basis.

The potential loss of the Chemistry and Physics Van programs has galvanized into action a consortium of CPS teachers, the Deans of the Colleges of Education and Arts and Sciences at Chicago State University, the Chicago Public Schools administration, and private foundations. As a consequence of a number of initial planning meetings and discussions with these constituencies, CSU is proposing a three-year transition plan that would allow the Chemistry, Physics, and a newly created Biology Van program to become self-sustaining.

Lead Institution: Southern Illinois University at Edwardsville

Project Title: Exploring Science: Improving Science Teacher Quality

High Need School District: Cahokia Community Unit School District 187; East Alton-Wood

River District 14; and East Alton Schoo

Partnership members: Lincoln Charter, Madison Community School District 12, Alton District 11, Belleville District 118, Granite City District 9, Lovejoy District 188, Piasa District 9, Roxana District 1, Alton East Middle School, Alton, Edwardsville, District 7, All Saints Academy in Breese, Breese Elementary School, Carlinville Middle School, Central Jr. High School in Belleville, Coolidge Middle School, Granite City, Corpus Christian School in Cahokia, Clark Middle School in East St. Louis, Dupo Jr. High School, East Alton Middle School, Freeburg Elementary, Freeburg Middle School, Fulton Jr. High School in O'Fallon, Germantown Elementary, Governor French Academy in Belleville, Grant Middle School, Fairview Heights, Grigsby Middle School in Granite City, Highland Middle School, Highland High School, Highland Upper Elementary, Holy Family Catholic School in Holy Trinity Catholic School in Fairview Heights, Lebanon Jr. High School, Lincoln Charter School in Venice, Lincoln Middle School in Edwardsville, Lovejoy Middle School, Mascoutah Middle School, Mount Olive Elementary School, Nashville Middle School, Northwestern CUSD #2 in Palmyra, Okawville Jr. High School, St. Agatha School in New Athens, St. Clare School in O'Fallon, St. Mary School in Centralia, St. Michael's School in Radom, Sts. Peter & Paul School in Waterloo, St. Rose School, Signal Hill School in Belleville, Sorento School, Southwestern Middle School in Piasa, Triad Middle School in St. Jacob, Trimpe Middle School in Bethalto, Trinity Lutheran School in Edwardsville, Waterloo Jr. High School, West Jr. High School in Belleville, Wolf Branch Elementary #113 in Swansea, and Zion Lutheran School in Litchfield

Core Academic Area(s): Science

Grade Level(s): Middle & HS

Grant Amount: \$70.875

Project Director: Dr. Sadegh Khazaeli

Professor of Chemistry

Southern Illinois University at Edwardsville Campus Box 1652, College of Arts & Sciences

Edwardsville, IL 62026-1652

(618) 650-3561 skhazae@siue.edu

Project Synopsis: The objective of this project is to provide hands-on professional development for high school physics and middle school science teachers with an emphasis on science subject matter related to the Illinois State Board of Education's Illinois Learning Standards (Science) and Illinois Professional Education Standards (Science Core). We plan to work with regional school teachers to help them improve their science knowledge, gain insight into applications of science, and become aware of available high quality science educational resources. These tools and knowledge should assist teachers in preparing their students to meet the standards expected in high school physics and middle school science courses. It is anticipated that these activities will eventually lead to students who are better prepared for high school and college science courses.

During fall 2007, we will have ten sessions (one day a week) of classroom-format discussion and demonstrations for 15 high school physics teachers. During spring 2008, the 15 physics teachers will participate in hands-on activities and laboratory experiments on the topics covered in fall 2007. During summer 2008, 40 middle school teachers will have ten days of classroom-format discussion (mornings) and laboratory/demonstration sessions (afternoons) on topics in biology, chemistry, earth science, and physics. Time will be built into the schedule for teachers to share their experiences and expertise. The plan is to include all educators in active learning in each meeting, rather than having a traditional lecture. Special effort will be made to encourage pre-service teachers, newly hired teachers, teachers who teach outside of their field of study, teachers from high need districts, and teachers from schools with high minority populations to participate in the program. This program has been developed in collaboration with high school and middle school educators in our region, and they are active partners in shaping activities and maintaining sustainability of the ongoing program.