

NO CHILD LEFT BEHIND GRANT ABSTRACTS 2006-2007

Following is a list of sub-grants funded by the Arkansas Department of Higher Education through the federally funded No Child Left Behind grant program. The purpose of the grant funds is to improve the quality of teaching in Arkansas. The grant notifications were distributed in March 2007.

Arkansas State University

\$37,647

Craighead County

Project Title: Get-A-Clue: Integrating Mathematics and Science Through Forensics

Contact Information: Ms. Jannie Trautwein – jhuffman@astate.edu

The Get-A-Clue project will consist of a three-credit graduate course conducted over seven days in June, 2007, in-school mentoring during the 2007-2008 school year, and two follow-up sessions. The course will focus on incorporating technology in an integrated content-rich curriculum based on solving crimes. Forensic science will be used as a unifying theme for enabling teachers to better understand content areas tied to Arkansas standards, and to incorporate NSTA and NCTM standards of science and mathematics pedagogy and technology use into their classrooms.

Instructors will be using activities from the following books: United We Solve; Forensics: Connecting Science Investigations with TI Data Collection Activities; Get It Together; Get A Clue-Using Technology to Solve a Crime; Activities for Algebra with the TI-83 Plus; Discovering Density; Marcia Tate's books and Dinah Zike's books.

Data collection and analysis are critical skills of science, technology, engineering, and mathematics (STEM) careers, and are emphasized in national and state educational standards for K-12 science, mathematics, and technology. Many Arkansas students do not participate in inquiry activities in their science classes either because their teachers do not have the content knowledge needed to teach these skills, or because they lack needed equipment and materials. This course will address those needs.

Arkansas State University

\$59,367

Craighead County

Project Title: Integrating Space Science and Mathematics (ISSM) and Spanish for Educators (SFE)

Contact Information: Dr. Cynthia Miller – camiller@astate.edu

Integrating Space Science & Mathematics (ISSM) is a three-hour graduate course to be offered to Grades 5 – 8 Mathematics and Science teachers during the summer of 2007 with 45 hours of contact in the summer course, and 15 hours of follow-up in the 2007-2008 school year which includes two 6 hr. workshops, and 3 classroom visits by mentors to observe participants teaching integrated space science & mathematics inquiry-based lessons. This course will improve participants' Earth Science, Physical Science, and Mathematics content knowledge.

Spanish For Educators (SFE) will offer educators a three-hour graduate course during the fall semester, 2007 with 45 contact hours in the fall, and 15 hours of follow-up during the

2007-2008 school year. SFE will introduce Hispanic culture and basic Spanish vocabulary needed in the educational setting. SFE participants should be able to:

1. Greet students and parents in Spanish and make expressions of courtesy;
2. Use and understand practical vocabulary and phrases related to the school setting;
3. Praise students and give basic commands in Spanish;
4. Ask students questions regarding their needs and feelings;
5. Speak to Spanish-speaking parents on a very basic level;
6. Write some comments regarding student performance and behavior in Spanish.

Arkansas State University

\$70,694

Craighead County

Project Title: Data Analysis for Teachers in Arkansas (DATA)

Contact Information: Dr. Mike Hall – mhall@astate.edu

The purpose of this course is to provide high-level learning opportunities in data analysis for current mathematics, science and literacy teachers in grades 5-12 in Northeast and Central Arkansas. Data-Based Decision Making will provide instruction to current teachers (specifically intended for teachers with less than 10 years experience) in an effort to increase content knowledge through the use of technology and cutting-edge pedagogical methods in instruction. The primary focus of this course is to not only provide teachers with data analysis tools that are need to comprehend standardized test results, but also to provide teachers with the tools necessary to create assessment tools and analyze results within their own classroom. Content of the course is based on research indicating that teachers need to continually increase content knowledge of the material being taught. This project is thought to be of great need to teachers in the state of Arkansas and will therefore be taught twice. In conjunction with Dr. Sally Robison at the University of Arkansas-Little Rock, Dr. Mike Hall will teach the courses at Arkansas State University and in the central Little Rock area.

Arkansas Tech University

\$87,083

Pope County

Project Title: Science and Mathematics Professional Development Project

Contact Information: Mr. Steve Zimmer - steve.zimmer@atu.edu

The Science and Mathematics Professional Development Project provides two programs of study for science teachers in grades 5-12 and one for secondary mathematics teachers. The science program will provide support to teachers as they modify their curriculum to cover the new AR Science Frameworks. Teachers in grades 5-8 are having difficulties in meeting the requirements of the new frameworks. Science teachers in grades 9-12 are also searching for better ways to present basic concepts. The programs offered will be (1) “Physical Science Force, Motion and Astronomy” and (2) “An Examination of the Geology and Life in the Six Natural Geological Regions of Arkansas”.

Harding University

\$91,859

White County

Project Title: Strengthening Content Knowledge, Improving Pedagogy, and Reflecting on Assessment of Student Achievement in Core Subject areas through the National Board for Professional Teaching Standards (NBPTS)

Contact Information: Dr. Clara Carroll – ccarroll@harding.edu

The National Board candidate process is a high-stakes endeavor for teachers. The goal of the certification process is greater content knowledge and pedagogy resulting in improved student achievement. In partnership with the College of Education, the College of Arts and Humanities, and Brinkley and Newport School Districts, this project provides rigorous, high quality graduate work and professional development in specific content teaching areas towards National Board Certification. The methods to be employed include: A 3-hour graduate course (EDFD 644) offered May 29-June 1, June 4-7, June 11-14, and September 22, 2007 and twelve follow-up sessions during the candidacy period.

The state of Arkansas currently has 378 Nationally Board Certified teachers (NBCTs) and nationally 47,515 NBCTs. This project calls teachers to meet established high standards through a highly rigorous and respected voluntary system and provides an opportunity for professional growth unlike any other now available to teachers. National Board Certification is a symbol of teaching excellence.

A study conducted with participants in the No Child Left Behind Grant FY06, Dr. Clara Carroll found that Harding University is providing statistically significant research-based instruction for participants to be effective in providing the knowledge teachers need to become National Board Certified Teachers. These results were presented by Dr. Clara Carroll at the National 2005 National Board for Professional Teaching Standards Conference in Washington, D.C., at the 2006 Mid-South Educational Research Association Conference in Birmingham, AL, and the 2006 Arkansas Reading Association Conference.

**Henderson State University
Clark County**

\$37,898

Project Title: Behind the Scenes in Science and Math-the How, Why, What of Integration

Contact Information: Ms. Betty Ramsey – ramsey@hsu.edu

“Behind the Scenes Science and Math—the How, What and Why of Integration” is intended to help teachers understand the process skills that students need in science and mathematics. Teachers have a difficult time integrating the Nature of Science strand of the Arkansas Framework in their daily science classes. This three-hour graduate course offers the instruction needed for teachers to bring about change in their classrooms by integrating the basic skills of observation, communication, classifying, measuring, inferring, and predicting in science and mathematics lessons. This course will lead teachers through investigations using each of the science and mathematics process skills which will lead to an understanding that all the process skills are used interchangeably, not independently. In addition to extensive training on the use of process skills, teachers

will learn how to apply the skills in investigations involving the concepts of the Arkansas Science and Mathematic Frameworks. These lessons involve making data tables, graphing, understanding variables, analyzing experiments, constructing hypotheses, and designing investigations.

University of Arkansas Board of Trustees, Fayetteville **\$88,773**
Washington County
Project Title: Earth Views: Looking at Earth From Your Own Backyard
Contact Information: Ms. Lynne Hehr – lhehr@uark.edu

Earth Views: Looking at Earth from Your Own Backyard consists of two major parts. PART I: Four summer sessions will be held for teacher professional development. Three sessions will focus on earth and environmental sciences. One session will focus on geometry and measurement. Session 1 will be a two-week content-based *Environmental Institute* to include training in the GLOBE program, PLT/WET/WILD, and an EPA-funded hydrology week. Session 2 will be a seven-day content-based *Earth Science Institute* focusing on seven major earth science topics. Session 3 will be a seven day content-based *Geometry and Measurement Institute*. Session 4 will be a seven-day *Science Technology Institute* tying technology with content in science classrooms. Follow-up will occur as teachers implement the science, math, and technology strategies covered during the summer through email, on-campus professional development offerings, classroom visits to assist participants in implementation, evaluation, and modification of lessons to insure classroom implementation of best practice science, math, and technology.

PART II: Seven monthly evening workshops during spring and fall 2007 will focus on math, science and technology content for pre-service mathematics and science educators (PMASE). This is an extension of the PMASE group established in 2001 with mathematics and science classroom methodology and implementation as its continued focus.

University of Arkansas Board of Trustees, Fayetteville **\$43,553**
Washington County
Project Title: Improving Elementary Teachers' Mathematics Content Knowledge by Integrating Number and Algebra Concepts
Contact Information: Dr. Laura Kent – lbkent@uark.edu

The purpose of this proposal is to enhance and deepen elementary teachers' knowledge of mathematics in ways that will provide more opportunities for them to design and organize problem solving environments in their classrooms. The emphasis of the content institutes will be to extend elementary teachers' knowledge of mathematics through detailed analyses of student work. Teachers will examine their own students' use of invented strategies for evidence of higher level mathematics such as algebraic properties with the goal of helping students expand their understandings of significant mathematical ideas. The goal of this approach will be two-fold. First, this type of analysis will help teachers understand the mathematical foundation of their students' work. Secondly, it will help teachers become more purposeful in terms of what they look for and listen to

when they have students share their thinking as part of class discussions and evaluation of written strategies. The structure of the professional development will include pre- and post-tests of teachers' mathematics knowledge, a seven-day summer content institute, with at least two follow-up workshops throughout the 2007-08 school year and three days during summer 2008.

**University of Arkansas –Fort Smith
Sebastian County**

\$37,434

Project Title: Science Learning in Process for Student Success (SSLIPSS)

Contact Information: Ms. Darlynn Cast – dcast@uafortsmith.edu

Elementary degreed teachers are not required in their degree plans to take upper-level science courses, however new standards require teachers to teach scientific principals and concepts. These standards necessitate a need for greater science knowledge. Circumstances have caused K-8 teachers to express feelings of frustration and ineptitude of teaching science. In addition, teachers and administrators in the River Valley region have indicated that they need quality science content/based professional development for K-8 teachers that promotes and supports inquiry-based learning and provides strategies that allow science to be integrated across the curriculum. This proposal is designed to involve K-4 and 5-8 teachers in two week summer workshops that will provide an intense review of the four strands of science and develop effective teacher strategies for teaching inquiry-based science. Each workshop will correlate the four science strands and activities to the national science standards and AR Science Frameworks. Six follow-up sessions will be provided throughout the school year that reinforce and evaluate teacher performance. The training and support of K-8 teachers through sustained professional development will provide an opportunity for teachers to learn, practice and reflect on what they have learned, and therefore to become more highly qualified to teach science.

**University of Arkansas at Little Rock
Pulaski County**

\$42,670

**Project Title: Integrating Second Language Standards and Performance
Assessment**

Contact Information: Dr. Dave McAlpine – dcmcalpine@ualr.edu

This proposal seeks funding to provide professional development opportunities for second language teachers through a series of day-long sessions designed to assist them in enhancing their knowledge of National Standards in Foreign Languages and in English as a Second Language, in fully integrating these standards throughout their curriculum and in developing integrated performance assessments. These national student standards, replicated in the Arkansas frameworks for second languages, have been established to provide clear expectations for student language acquisition and nationally-recognized measures to document student achievement. For this project participants will work to relate the knowledge they have acquired about the national student standards to language skill proficiency expectations. They will receive guidance and opportunity to revise existing lesson plans using authentic materials to reflect the new expectations. In

addition, such revisions will include an appropriate assessment component reflecting the recently established national model assessment plan, Integrated Performance Assessment.

University of Arkansas at Little Rock

\$54,310

Pulaski County

Project Title: Arkansas STRIVE 2007: Inquiry and Problem-Solving Approaches for Teachers

Contact Information: Dr. Jim Winter – jdwinter@ualr.edu

Arkansas STRIVE places science, math, and computer teachers from middle, junior high, and senior high schools (6-12th grades) into summer research positions or on projects in industry, government agencies, universities, research facilities, and nonprofit organizations. Teachers work with professionals in the field for eight weeks and learn how professionals solve problems facing their organizations. We support about 30 teachers per summer in our program with a variety of private and public funding sources. We request matching monies from the No Child Left Behind (NCLB) Program for seventeen teachers to work on research projects in the ADHE-supported Centers for Math and Science Education at Arkansas universities and at other nonprofit organizations. We also present workshops to the teachers on inquiry and problem-based teaching, and on using computers for data analysis. In addition, we help the teachers develop inquiry-based or problem-based lessons using the new skills and experiences that the teachers acquired during the summer. The main expected outcomes are that teachers will experience real-world research and problem solving, learn methods of inquiry and problem-based teaching, and develop two inquiry-based and problem-based lessons that they will use in their own classrooms. We place the STRIVE teachers' lessons on computer CDs and give a CD to each teacher so that they have a library of good inquiry and problem-based lessons.

University of Arkansas at Little Rock

\$89,804

Pulaski County

Project Title: UALR Math and Science Education Partnership (MSEP) Science Academy

Contact Information: Dr. Pam Warrick – plwarrick@ualr.edu

Teachers will experience the optimal learning environment for topics in middle school and secondary science at UALR Math & Science Education Partnership (MSEP) Science Academy in cooperation with the UA Arkansas School of Math, Science and Arts (ASMSA) in Hot Springs, Arkansas. Participating teachers from grades 6-12, will be housed at ASMSA for an intensive content skill development in Chemistry, Physics, Biology and Middle School Science strengthening content and pedagogical skills, activities to increase knowledge of laboratory preparation and instructional delivery, ideas for integration of math and science, preparation for end of course exams, development of skills with use of hands-on equipment, integration of appropriate technology for science exploration, curriculum alignment with the Arkansas Frameworks and National Standards (NSTA) and the research implications of higher impact on 7-12 student achievement. Follow up instruction will include 2 full days at the University of

Arkansas at Little Rock Campus (August 25, September 8) for developing laboratory experiments and aligning curriculum for classroom delivery. Teachers will also write proposals for presentations at the Arkansas Conference on Teacher as a culminating dissemination of lessons learned from the UALR MSEP Science Academy.

University of Arkansas at Monticello

\$46,859

Drew County

Project Title: ESL Teaching Methods-Language Content

Contact Information: Dr. Marla Ramirez – ramirez@uamont.edu

The ESL Teaching Methods program is designed to provide teachers with graduate level instruction in four ESL topic areas to better serve the ESL students in their classrooms. The program consists of four three-hour ESL graduate courses that allow the teachers to add ESL endorsement to their current teaching license upon completion. The courses are designed to meet the needs of teachers from a regional area; therefore, each 3 credit hour (45 contact hours) course will meet for 30 hours of face to face instruction and 30 hours of on-line (WebCT) instruction and mentoring on-site. The first course will be taught during the month of June 2007 (5 days for 6 hours each day, and 30 hours on line instruction and mentoring), and the second course will be taught during the month of July 2007 (5 days for 6 hours each day, and 30 hours on line instruction and mentoring). The third course will be taught during the Fall 2007 semester (4 Saturdays one per month for 4 months, and additional on line instruction), and the fourth course will be taught during the Spring 2008 semester (4 Saturdays one per month for 4 months, and additional on line instruction). At the end of the Spring 2008 semester, the participating teachers will be able to apply for ESL endorsement from the Arkansas Department of Education.

University of Arkansas at Pine Bluff

\$30,507

Jefferson County

Project Title: Southeast Arkansas P-16 Education Partnership-07

Contact Information: Dr. Shelton Fitzpatrick – fitzpatrick@uapb.edu

Education in Arkansas schools is dependent upon a teaching population that is trained and retrained to address student needs through the use of educational standards and by incorporating technology as a management tool or as a method to enhance instruction. With the current movement towards higher standards for student performance, improved curricula, and assessment strategies, Arkansas schools are desperately in need of high quality professional development programs that will address the expressed needs of their teachers and administrators. This program will facilitate activities which are aligned with the Arkansas Curriculum Frameworks and national standards. The activities proposed will be teacher preparation for pre-service teachers (undergraduate) and professional development for career teachers (graduate). Teachers will receive training in regard to recognized teaching techniques and best practices in working effectively with low-income, minority, and academically challenged middle to high school students. Professional development and training is significant to the learning of new teaching/learning methods to accommodate underserved and underrepresented students

toward academic progression. Professional development activities will include, but not be limited to, a three-hour curriculum-based course where participants will receive graduate or undergraduate credit; weekend or evening training sessions; summer workshops to reinforce or introduce new and innovative technology-based teaching materials; and follow-ups on classes/sessions/workshops to evaluate material usage. Alzheimer- Dollarway and Pine Bluff are the targeted districts for recruiting teachers into the program.

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