

College of Education – FY 2004 Research Abstracts

SCHOOL OF APPLIED HEALTH AND EDUCATIONAL PSYCHOLOGY (SAHEP)

Hands-on Undergraduate Laboratory in Photonics Using Case Studies and Other Non-traditional Methodologies

Assessment instruments are being developed and implemented to measure the effectiveness of the case study and industrial model laboratories approach as part of a model photonics curriculum for undergraduate engineering students.

Sponsor: National Science Foundation

PIs: Kay Bull (SAHEP)

Electrical and Chemical Engineering: Alan R. Cheville

Oklahoma State Park Visitor Study

This project is an assessment of recreation investment needs and opportunities in Oklahoma State Parks. It initiates a process that has great value to the Oklahoma State Park managers with possible extension to other recreation resource providers. Further, this assessment provides an opportunity for the Department leadership and the Commission to base decisions for future development on more accurate information from the primary recreation users of Oklahoma State Park facilities. This project also provides the opportunity for the public to have a representative voice in planning for the public recreation estate as provided through the state land management agency with the highest public profile.

Sponsor: Oklahoma Tourism and Recreation Department

PI: Lowell Caneday

Evaluation of the Oklahoma State Parks System

Statewide recreation facilities will be inventoried and assessed. A statewide recreation needs assessment incorporating a scientific survey will be developed and implemented to identify characteristics, needs, wants, opinions, and usage patterns of the expected population. A benchmarking survey of five comparable government park systems nationwide will ascertain industry standards, best practices, and funding methods. An action plan incorporating all these elements and future operational recommendations with corresponding cost-benefit analyses will be provided.

Sponsor: Oklahoma Tourism and Recreation Department

PIs: Lowell Caneday, Deb Jordan

HES/Bureau of Social Research: Christine Johnson

Preparing Future Faculty in Psychology

Programs are offered to address the career interests of graduate students in this region interested in preparing for academic careers. Participants include students from the OSU Colleges of Education and Arts and Sciences as well as students from five partner institutions.

Sponsor: American Psychiatric Association

PI: Sue Jacobs

Continuing Education Program for Oklahoma Recreation and Park Society

This contract reimburses OSU for instruction included in specified continuing education programs.

Sponsor: Oklahoma Recreation and Park Society

PI: Jerry Jordan

Project CREATE

Project CREATE's mission is to develop and deliver high quality academic instruction infused with high quality arts instruction for students attending at-risk schools in the Tulsa Community.

Sponsor: Barthelmes Foundation, Inc.

PI: Diane Montgomery

OSDE Tuition Support for School Psychology Graduate Students

Program provides tuition reimbursement for school psychology graduate students for coursework in preparation for later enrollment in practicum and school psychology internships.

Sponsor: Oklahoma State Department of Education

PI: Terry Stinnett

SCHOOL OF EDUCATIONAL STUDIES (SES)

Defense Ammunition Center Training Evaluation Plan Development and Implementation

A custom training evaluation plan is being developed for current, in-person training, as well as the design, delivery, and effectiveness of current and future electronically-delivered training. The plan will be implemented and then evaluated at various DAC facilities. The project has also included the review and selection of a learning management system along with the development of scorm-based instructional design.

Sponsor: Defense Ammunition Center/SI International

PIs: Laura Barnes, Sandra Goetze, Stacy Otto, Catherine Sleezer

EREDF: Tom Collins

ETS: Marshall Allen

Research and Evaluation of the Oklahoma A+ Schools Program

A+ Schools program is a community effort—from teachers and principals to janitors and bus drivers—to integrate the arts into the classroom. The Project started as a part of the DaVinci Institute, an educational partnership between ten Oklahoma colleges and universities established in February 2000 to strengthen arts education and cultural development throughout the state. The program is based on a model that infuses arts throughout the curriculum. The model has proved that arts rich schools teach students to be innovative problem solvers and flexible thinkers.

Sponsor: DaVinci Institute/Kirkpatrick Foundation

PIs: Mike Gunzenhauser

SAHEP: Diane Montgomery

Star Schools: Personal Access=Learning Success (PALS)

PALS provides hand-held computers for a group of middle school students. This pilot

project allows a student to check out a computer for the entire school year to use in class and to conduct research. OSU's role is to evaluate the project and assess its impact on students and teachers.

Sponsor: U.S. Department of Education/Oklahoma State Department of Education

PI: Ed Harris

Evaluation of HIV Prevention Interventions

Project evaluates the peer education HIV prevention intervention programs at targeted women's prison sites.

Sponsor: Centers for Disease Prevention (CDC)/Oklahoma State Department of Health

PI: Adrienne Hyle

Native American Cohort

The Native American Cohort provides tuition and fees for twenty-four selected American Indian education professionals to pursue School Administrator Certification.

Sponsor: U.S. Department of Education/American Indian Research and Development (AIRD)

PI: Bert Jacobson

Oklahoma Center for Community Education

This contract was designed to increase accountability of community education programs in Oklahoma through assessment, communication, and training. The Center worked in partnership with a consortium advisory council made up of group members to implement the effort. The training included institutes, workshops and teleconferences, baseline assessment information, an electronic newsletter, and a web page. Updating the *Community Education Practitioners' Handbook* and developing a final report on the status of Community Education in Oklahoma will complete the project.

Sponsor: Community Partnership Development Foundation

PI: Deke Johnson

NASA Aerospace Education Services Program

Through this program, Oklahoma State University administers the activities of the Aerospace Education Services Program (AESP) of the National Aeronautics and Space Administration (NASA), which provides teachers, students, NASA Explorer Schools (NES), and the general public nationwide with information about NASA's latest programs and research. Information is disseminated through teacher workshops, demonstrations, and lecture programs provided by thirty-five education specialists and twelve NES Coordinators based at ten NASA space flight and research centers across the nation. Specifically, the program provides for aerospace education community involvement programs; assistance to NASA Explorer Schools; courses and workshops for elementary and secondary school teachers and pre-service teachers; assistance with curriculum enhancement and development activities at the national, state, and local levels; presentations for delivery on education television and radio; presentations for civic clubs and professional organizations; special services at science and technology centers; and professional development programs for aerospace specialists. This national program offers a number of these activities in selected inner city areas.

Sponsor: National Aeronautics and Space Administration (NASA)

PI: Steven K. Marks

NASA Teaching From Space Cooperative Agreement

Under a contract with NASA, Oklahoma State University is responsible for the general administration of the Teaching From Space Program (TFSP). This program provides logistical support for curriculum development, support to Network of Educator Astronaut Teachers (NEAT), education product development, education payloads and operations for the Space Shuttle and the international Space Station, and education conferences associated with the program.

Sponsor: National Aeronautics and Space Administration (NASA)

PI: Steven K. Marks

Aerospace Education High School Summer Academy

The OSU Aerospace Education High School Summer Academy made it possible for thirty students who are between their sophomore and junior years or junior and senior years in high school to engage in active study of aerospace education concepts. This three-week experience provided on-campus classroom activities, as well as regional field trips to study the impact of aviation and space exploration on society.

Sponsor: Oklahoma State Regents for Higher Education

PI: Steven K. Marks

Airport Inspections and Data Procurement Program

Aviation faculty are conducting 145 FAA 5010 annual airport inspections in Oklahoma.

Sponsor: Oklahoma Department of Transportation/Oklahoma Aeronautics Commission

PI: Steven K. Marks

Tenskwatawa Indian Teacher Corps

This project seeks to increase the number of American Indian teachers in the U.S. by providing training funds (tuition, fees, books) to eligible students to enable them to complete requirements for teacher certification.

Sponsor: U.S. Department of Education/Tenskwatawa, Inc.

PI: Margy McClain

HIV Needs Assessment and Training Evaluation

Program developed and pilot tested an evaluation needs assessment that was disseminated to community-based organizations, State Health Department employees, and regional members of community planning. A continued effort will focus on strategic planning and conducting outcome evaluations for two clinics that were implementing prevention case management programs.

Sponsor: Centers for Disease Control (CDC)/Oklahoma State Department of Health

PI: Catherine Sleezer

SCHOOL OF TEACHING AND CURRICULUM LEADERSHIP (STCL)

Relevancy Enhancement Achieved by Laboratories and Lecture Integrated for Engineering Education (REAL LIFE) Adoption of a Relevant Undergraduate Curriculum

This project will attempt to increase retention of engineering students by implementing a model based on successful engineering curriculum reform efforts. This model has been implemented and tested through an NSF Course, Curriculum and Laboratory Improvement, with great success.

Sponsor: National Science Foundation (NSF)

PIs: Richard Bryant

Electrical and Chemical Engineering: Alan R. Cheville

Geometry: Visualization and Manipulation for Understanding

These week-long professional development workshops on visualization and manipulation for understanding of geometry are conducted to improve the content knowledge of mathematics teachers from high-need LEAs at two different locations in the state. Both workshops provide teachers the opportunity to work with the latest technology and geometry software and to incorporate those technologies and other geometric models with appropriate lesson plans and assessments based on the PASS objectives. Scientifically-based research techniques measure the workshops' impact on student achievement.

Sponsor: Oklahoma State Regents for Higher Education

PIs: Darlinda Cassel, Stacy Reeder

Oklahoma Christian University: Phyllis Bolin

Oklahoma Baptist University: Eugene Hobbs

Preparing Inclusive Personnel Partnership Project

This project prepares children and youth with disabilities to meet challenging state standards and make successful transitions to adult life through the establishment of a sustainable model of personnel preparation and professional development. The partnership with Perry Public Schools redesigns content and delivery of pre-service personnel preparation programs for general/special educators, and related service providers.

Sponsor: Oklahoma State Department of Education

PIs: Bob Davis, David Yellin

SAHEP: Terry Stinnett

Professional Development Institute for Mentor Teachers

Oklahoma State University's College of Education, in collaboration with Stillwater Public Schools, provides Coaching Skills for Effective Teaching, a funded program to prepare mentor teachers in the state's Residency (induction) Program to effectively support first year teachers. The program works with approximately 100 educators throughout the state.

Sponsor: Oklahoma Commission for Teacher Preparation

PIs: Leah Engelhardt

Stillwater Public Schools: Diana Leggett

OSU Writing Project

An affiliate of the National Writing Project, the OSU Writing Project is a collaborative school-university program dedicated to improving the quality of instruction in elementary and secondary schools through staff development training for teachers. The OSU Writing Project offers a summer institute for classroom teachers who want to improve their own writing skills and involve their students in more writing activities. Teachers must apply to the summer institute and those accepted receive a stipend towards tuition and books. Participants study current theories of teaching writing and share their own best practices.

The 2004 project was the thirteenth in a row to be funded by the National Writing Project, Berkeley, California.

Sponsor: National Writing Project

PIs: Margaret Scott

Arts and Sciences: Carol Moder, Britton Gildersleeve

Examining the Caliber of Books Used with Three-Year Olds in Subsidized Childcare Facilities and the Influence on Literacy Actions

The quality or caliber of literacy materials used with three-year old children in subsidized daycare is examined to determine if they are engaging and appropriate and if they are available for voluntary exploration. Titles for read alouds and voluntary use are compared to recommended book lists for toddlers. The number of books available is also being determined. Utilization of the predictors of engagedness, appropriateness, and recommended status, and the number of books available are evaluated as indicators of the number of literacy actions of children.

Sponsor: American Educational Research Association

PI: Heidi Anne Mesmer

Textual Scaffolds for Beginning Readers: What Differences Do They Make in Developing Specific Literacy Behaviors and Eventual Reading Autonomy?

This study will examine the effects of beginning reading materials, decodable or leveled text. The findings will allow teachers to selectively choose either format based on students' needs. The results of the study will determine if a choice between formats produces the intended effect, autonomy, by the end of 2nd grade and how these formats affect literacy behaviors over two years.

Sponsor: The Spencer Foundation

PI: Heidi Anne Mesmer

Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR-UP)

GEAR-UP is a comprehensive five-year program utilizing diverse public and private two-year and four-year institutions; a state agency; non-profit community based organizations; and Tulsa Public Schools. The main objective of the program is to work with approximately 1,200 middle school students and encourage them to stay in school, study, and prepare for college or vocational training.

Sponsor: U.S. Department of Education

PIs: Kouider Mokhtari

SAHEP: John Romans

Star Schools: Integrated Language Arts Instruction

This project develops a curriculum drawn from multiple disciplines—mathematics, science, and social studies—using various instructional strategies and problem-solving activities based on selected questions or problems. An integrated approach to teaching and learning allows students to use a variety of communication tools and strategies—visual, mathematical, linguistic, performance, etc.—to explore, synthesize, and represent their understandings of math and science content.

Sponsor: U.S. Department of Education

PIs: Kouider Mokhtari, Leah Engelhardt

Retention of Students in the Biological Sciences Assessment

Assessment instruments are developed, implemented, and evaluated for a program designed to help undergraduate biological science students stay in the academic program and eventually pursue careers in related fields.

Sponsor: Howard Hughes Medical Institute

PIs: Kouider Mokhtari

Biochemistry: Margaret K. Essenberg

Oklahoma Range and Wildlife Ecology Academy

Held at Black Mesa State Park, this six-day summer academy for fifty tenth through twelfth grade students from Oklahoma, New Mexico, Texas, Colorado, and Kansas applied the relationship of grassland agriculture and ecological sciences to environmental issues and habitat. Instructors from OSU, USDA-NRCS, BIS, BLM, New Mexico State University, Colorado State University, SST Technology, Inc., and private ranchers emphasized problem solving, teamwork, individual development, research skills, and technical knowledge applied to land management. Students completed the development of an extensive plant collection, kept daily journals, and developed a land management plan utilizing satellite imagery and GIS computer technology in the field.

Sponsors: Oklahoma State Regents for Higher Education; Oklahoma, Kansas, Colorado, Texas, and New Mexico Sections of the Society of Range Management

PI: Christine Moseley

Understanding the NASA Earth Science Enterprise by Connecting Scientists, Teachers, and Students in the K-8 Classroom

A new senior level aerospace science course for elementary education majors was created that integrates mathematics, science, and technology. The course involves on-site data collection of NASA aerospace science-related investigations, including hydrology, soils, atmosphere, land cover, GIS measurements, and astronomy. The research involves effectiveness of this course.

Sponsor: NASA Opportunities for Visionary Academics (NOVA)

PIs: Christine Moseley, Kay Reinke

SES: Steven K. Marks

Career and Technology New Teacher Induction Process

This service and research grant is a collaborative effort between ODCTE, twenty-two technology centers, and the schools of Occupational Education Studies at the University of Central Oklahoma and OSU. Working as a team with local administrators, a local instructional mentor, and a higher education representative, first-year teachers are able to identify strengths, challenges, goals, and strategies in order to move from surviving to thriving in development of the skills for effective teaching.

Sponsors: Oklahoma Department of Career and Technology Education and Local Technology Centers

PI: Mary Jo Crawford Self

Star Schools-The New Millennium: Improving Math and Science in Middle Schools

A principal component of OSU's Star Schools project focuses on integrating technology

into math and science instruction. Specifically, the World Wide Web will be utilized to deliver materials and models to train teachers in the use of digital information storage and management, office productivity software, educational software packages; and multimedia production tools. Teachers will also be trained in effective WWW searching strategies, the use of digital communication tools, in web development, and appropriate use of information technology tools in the classroom.

Sponsor: U.S. Department of Education

PI: Susan Stansberry

A Professional Development Institute on Algebra and Its End-of-Course Assessment

Professional development is being provided to teachers of algebra emphasizing content, pedagogy, equity, and assessment. Student-centered, learning-by-discovery, classroom-ready lessons will be used to demonstrate and model the training.

Sponsor: Oklahoma State Regents for Higher Education

PIs: Susan Stansberry

Mathematics: James R. Choike

Center for Science Literacy: Gayla Hudson

Rural Alliance for Improving Science Education (RAISE)

Rural Alliance for Improving Science Education (RAISE) seeks to enrich the learning environment of 6th-12th grade students while providing OSU graduate students with first-hand opportunities to experience the teaching profession. Graduate students (RAISE Fellows) are paired with 6th-12th grade science teachers. The interdisciplinary area of Geographic Information Science (GISci) serves as the focus for fellows and teachers to develop innovative science curricula. Summer workshops were offered in July 2004. Lesson plans and other materials developed by fellow/teacher teams will be disseminated regionally through summer institutes and nationally through a project website.

Sponsor: National Science Foundation

PIs: John Steinbrink

Arts and Sciences: Thomas Wikle, Joel Helmer

EDUCATION OUTREACH

Adult Education and Literacy Professional Development Workshops

Professional development workshops are held focusing on strategies for teaching adults in the areas of reading, learning disabilities, work-based education, family literacy, assessment of basic skills, English as a second language, and other relevant adult education and literacy topics.

Sponsor: Oklahoma State Department of Education

PIs: Adrienne Hyle (SES)

Outreach: Brenda Solomon

Junior Science and Humanities Symposium

Students from Kansas, Oklahoma, and Nebraska will visit campus to present projects in a regional competition in science, mathematics, and engineering.

Sponsor: Academy of Applied Science

PI: Brenda Solomon

EDUCATION RESEARCH ADMINISTRATION

Clearinghouse for Rehabilitation Training Materials

Funded by a grant from the U.S. Department of Education Rehabilitation Services Administration, the National Clearinghouse for Rehabilitation Training Materials supports the collection and dissemination of human resource development materials created by the national vocational rehabilitation community. The Clearinghouse, established at OSU in 1961, reaches an international audience of rehabilitation practitioners and counselor education programs, special educators, state vocational rehabilitation agencies, and community rehabilitation programs. Its library contains more than 7,000 titles of printed and audio visual materials on topics related to people with disabilities. It provides document delivery, reference, and research services to the national rehabilitation community.

Sponsor: U.S. Department of Education

PI: Charles Feasley

STUDENT SERVICES AND PROFESSIONAL EDUCATION

Collegiate Partnership Program

Academic Commitment to Education (ACE) encourages high school students: 1) to focus on a teaching career, 2) to encourage minority students to enter the teaching profession, and 3) to specialize in high demand teaching areas.

Sponsor: Oklahoma State Regents for Higher Education

PIs: Bob Davis (STCL)

Student Academic Services: Cathy Orsack