

Henderson State University - Engaging Elementary Investigators in Science: Developing Thinkers and Problem Solvers

The STEM Center at Henderson State University, in collaboration with five high-need LEA school districts, Arkadelphia, Blevins, Centerpoint, Magnet Cove, El Dorado, and Parkers Chapel will implement a program entitled *Engaging Elementary Investigators in Science: Developing Thinkers and Problem Solvers*. Other partners include Dawson Education Service Cooperative, the Biology department at Henderson State University, Teachers College Henderson, and the Southwest A Education Renewal Zone. The project's goals are to improve student content knowledge and use of scientific ways of thinking, increase teacher content knowledge and pedagogy in the area of elementary science, and increase teachers' knowledge and use of Project-Base Learning. The project team will use a randomized experimental pre-test and post-test research design with a delayed treatment for the control group within the same schools as the treatment group. Student achievement on the applied evaluation instrument is expected increase 5% from pre-test to post-test each year in the treatment group as opposed to the students in the control group. *Engaging Elementary Investigators in Science: Developing Thinkers and Problem Solvers* will become a long-term professional learning community for up to 25 Kindergarten through fourth grade teachers for a minimum of 100 contact hours each year.

The first year of the project will focus on instructing teachers in the three-dimensional format of the proposed Arkansas K-12 Science Standards, the fundamental ideas of Project-Based Learning, and increasing the life science content of the treatment teachers. The life science concepts included in the new standards are "Structure, Function, and Information Processing" and "Interdependence or Organisms: Animals, Plants, and Their Environment". The external evaluation specialist will use formative and summative assessment, teacher surveys, and participant interviews which will include both qualitative and quantitative measures to conduct a comparison between the teachers participating in the instruction and teachers in the control group.