

## *Abstract for University of Central Arkansas: Connecting Core Instruction to Next Generation Mathematicians*

The University of Central Arkansas (UCA); the Arch Ford Educational Cooperative; and three high-need LEA school districts (Little Rock, Nemo Vista, and Rose Bud) partnered to establish CCI 5-7. Additional three school districts partnered with us. The CCI 5-7 project provided professional development opportunity for 30 math, science and literacy teachers from grades 5-7 for a minimum of 100 contact hours during the each year of the project. The UCA STEM Institute hosted three one-day trainings, and a ten-day summer institute on UC campus. 1-2 class visits we conducted. For the capacity building with UCA faculty to support teachers, an advisory board was established to develop high impact professional development activities that are appropriate for teachers. During August and September planning for recruitment, meetings with UCA science faculty to develop workshop materials for professional development was conducted. Weekend trainings were offered in January, March and May and two week in summer (June 23-27 and July 14-18, 2014).

The program proposes to develop mathematics and science initiatives that will enhance learning progressions that support the coordination of the Common Core State Standards (CCSS) and Next Generation State Standards (NGSS). The project focused on the improvement of mathematics and science instruction in grades 5-7. The initiative includes multimodal instructional model that support multiple forms of assessment. Based on the needs assessment data, concepts of specific domains of key concepts of math and science and the most effective ways to teach them will be thoroughly explored.

**Goal #1:** Increase the level of math and science content knowledge and skills by the use of Next Generation Science Standard concepts to address Arkansas standards and integrate Common Core State Standards in significant depths.

**Objective #1** Statistically significant improvement in teachers' content knowledge as evidenced by pre-/post test.

**Objective #2** Development of an ability to integrate science with math and literacy so as to increase the probability of academic success for all students and as demonstrated by a statistically significant increase in the number of students scoring above proficient levels in the benchmark scores.

**Goal #2:** Establish a team, composed of one math and one science school teacher, from each school district for the vertical and horizontal alignment of the content.

**Objective #3:** Create a vertical alignment of SLE's for the grades 5-7 to increase academic achievement of all students as evidenced by document analysis of the lesson plans and classroom observations.

To evaluate the success of the project, a quasi-experimental design will be used. A comprehensive evaluation that will use formative and summative assessments and include both qualitative and quantitative measures for each program goal will be conducted by an experienced external evaluation specialist.