

Constructivist Early Childhood Science: Building Inquiring Minds

Project Title: Constructivist Early Childhood Science: Building Inquiring Minds

Project Director: Dr. Samuel Hausfather

Lead Institution: Maryville University

Duration of Project: Two Years (Cycle 9 is the first year of this project)

Grade Level Focus: K-5 (Cycle 9 will focus on grades K-4)

Credit Hours to be Provided: 6 graduate credit hours

Project Summary:

Maryville University's School of Education and College of Arts and Sciences, in partnership with the St. Louis Public Schools, the Missouri Botanical Garden, and non-public school partners, seeks support to implement a two-year Improving Teacher Quality grant. The proposed project will build understanding, use, and assessment of constructivist science teaching strategies by early childhood teachers in the two district early childhood centers, grades 3-5 continuation school and selected nonpublic schools, and improve student learning outcomes in science.

Project activities will include:

- Hold yearly 56-hour summer institutes for K-4 teachers and administrators from the SLPS early childhood centers (Wilkinson, Stix, Humboldt) and selected nonpublic schools on implementing constructivist practices in urban classrooms, building science content knowledge, and developing hands-on minds-on environmental education teaching. Content will focus on integrated environmental science concepts, science inquiry skills, constructivist approaches to inquiry learning, identifying misconceptions in science, performance assessment, and integrating literacy and mathematics in science. Maryville education and science faculty will serve as institute faculty with assistance from consultants from the Missouri Botanical Garden.
- Provide 64 hours yearly of follow-up ongoing instruction along with pedagogical coaching and lesson analysis for teachers to help them design and integrate constructivist inquiry-based science instruction. Maryville faculty and district curriculum supervisors will serve as faculty and coaches and involve school administrators in implementing constructivist science strategies.
- Provide coaching and assistance for participating teachers in the design and implementation of performance-based assessment strategies and the use of data teams.
- Provide participating teachers with hands-on environmental education learning resources designed to support inquiry-based instruction

- Infuse Maryville University teachers-in-training into Stix, Wilkinson, and Humboldt classrooms, focused on integrated approaches to science curriculum and instruction. Incorporate additional research-based teaching strategies on addressing the needs of culturally diverse students into science methods courses for preservice teachers