Title of Project: The STILTS Project: Strategies for Technology-enhanced Inquiry Learning and Teaching in Science

Director: Lynne Anderson-Inman, Ph.D.

Funding agency: Improving Teacher Quality: Oregon University/School Partnership Program

Description:

The STILTS Project is a collaborative effort between: (a) two professional development units in the University of Oregon’s College of Education (the Center for Advanced Technology in Education and the Oregon Writing Project); (b) a research and outreach unit in the College of Arts and Sciences (STEM CORE); and (c) multiple Oregon high need/high poverty rural school districts. Teacher and administrator participants will engage in a 15-month high quality, intensive professional development program designed to address the unique instructional challenges and geographic isolation of educators in rural schools by using a highly successful combination of short professional development institutes; biweekly workshops in a virtual 3D immersive world; reading discussion groups, and peer mentoring.

The goal of the STILTS Project is to increase teachers’ knowledge of and skill in using inquiry-based strategies for teaching and learning aligned with Next Generation Science Standards (NGSS) and Common Core State Standards (CCSS) in English Language Arts. Specifically, the STILTS Project will provide professional development on strategies for implementing the NGSS three-dimensional approach to science instruction that calls for inquiry-based instruction designed to integrate (1) “disciplinary core ideas”, (2) “cross cutting concepts”, and (3) scientific “practices” - behaviors that scientists engage in as they investigate theories about the natural world. In addition, participants will develop and demonstrate expertise in: (a) establishing a classroom culture of inquiry; (b) planning lessons that balance science content and practices; (c) adopting strategies that make scientific thinking visible; (d) encouraging cross disciplinary investigation; (e) improving
students’ scientific reading, writing, and reasoning; (f) integrating effective technology tools and online resources; (g) facilitating argument writing in which scientific claims are supported by evidence and logic; and (h) linking inquiry-based instruction with inquiry-based assessment. Expected outcomes include increases in participating teachers’ science content and pedagogical knowledge, change in teacher practice related to science inquiry and scientific writing, and improved academic achievement by students.

Lynne Anderson-Inman, Ph.D., Principal Investigator and Project Director