

Transforming Instruction by Design in Earth Science (TIDES)

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Funded by the Department of Education Institute of Education Sciences, this project is a partnership of SRI, TERC, the American Geological Institute, and Duval County Public Schools. The project evaluates how Earth system science teaching and learning can be improved by using different mixes of curriculum materials and teacher professional development strategies. The project addresses the following questions:

- Should teachers be trained to design high-quality curricula themselves or should they be trained to implement professionally-designed curricula?
- What is the effect of curriculum adaptation by teachers?
- When teachers are provided with professionally-designed curricula and training in how to design curriculum themselves, what are the changes in instructional practice and what are the effects on student achievement?

The project conducted a random-assignment research study in Duval County, Florida with the cooperation of fifty-six 6th, 7th, and 8th grade teachers from 19 middle schools. The study tested three different mixes of professional development materials and curriculums, comparing them to a fourth, "business-as-usual" control condition. All three intervention conditions were based on the principles of *Understanding by Design (UBD)* (Wiggins and McTighe, 1998)—an approach to curriculum development that focuses on teaching for and assessing conceptual understanding.