

ORION and STORI: Bringing Inquiry into the Classroom

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Abstract

As an outgrowth of my professional development efforts in Arizona and teaching General Education classes at The UA with its share of future elementary and middle school teachers, it was clear that there was a need for both pre-service and in-service teacher training in inquiry-based science. The two programs described below are the result of this effort.

ORION (Organizing Research, Inquiry, and Observing Nights) and STORI (The Summer Triangle: Observing, Research and Inquiry) are multi-state efforts to bring both science inquiry as well as Space Science content into upper elementary and middle school classrooms in Arizona, Ohio, and Arkansas. ORION is a 2-year project, supported by a NASA IDEAS grant and STORI is an expansion of ORION supported by a grant from the University of Arkansas. In 2004 and 2005 we trained over 50 teachers.

The programs have created standards-driven, inquiry-based investigations for developing significant understanding of Space Science content extending across the curriculum. Teachers are given reflecting telescopes that they assemble, align, and learn how to use for nighttime observations. They are expected to take these telescopes back to their classrooms and use them with students, as well as sharing their experiences with other teachers.

The impetus for ORION and STORI is the recently-released Arizona, Ohio, and Arkansas science standards, emphasizing scientific inquiry as well as science content. ORION provides an innovative approach developed from the premise that regular and systemic observations of the day and night sky are an important component in the pursuit of personal observations, questions, and inquiry for constructing standards-based understandings. The central purpose guiding the implementation and evaluation of ORION and STORI is to infuse regular sky watching by students into the curriculum in ways that lead to student inquiry into Space Sciences questions developed by students themselves.