

GT4 AUTHENTIC SCIENTIFIC ACTIVITIES IN PRIMARY-LEVEL SCIENCE TEACHER PREPARATION

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The University of Colorado, Boulder has transformed many of its large-enrollment science courses to be student-centered and interactive through the incorporation of learning teams and technological tools. At the same time, we have transformed our teacher certification program so that our future teachers not only use technology to learn science (in transformed university-level science courses) they also take some of these tools into local primary and middle school classrooms and put them into the hands of children. PASCO SPARKTM data collection and analysis systems are being used to transform primary and middle school science into more authentic versions of science, where hypotheses are generated and tested through the collection, representation, and analysis of physical data. The future teachers in our CU-Teach program design lessons and use probeware systems to conduct science activities in the elementary school classrooms as a part of their teacher certification program. Our role as teacher educators is to support these prospective teachers as they develop and implement inquiry-based science lessons that incorporate the most current educational technology. This allows elementary students to collect and analyze data regardless of the availability of resources in these schools, increasing access to the latest technologies and transforming the science of the elementary school into authentic scientific inquiry. In this paper we share the process we have undertaken to collaborate with local primary schools to transform science teacher preparation to include the use of technology as a central element in the pursuit of authentic scientific inquiry. We will present data and conclusions regarding the various impacts of the use of technologies on prospective teachers and their primary-level students.