

Title: A Comprehensive Approach to the Evaluation of an Inquiry-Based Science Education Program

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Abstract:

The National Science Education Standards (National Research Council, 1996) call for teachers who possess science content knowledge, employ the inquiry approach to teaching and engage in reflective practices. This requires restructuring of current teacher education programs. In order to meet these standards, science content courses should be taught by science faculty who model inquiry methods and consult national and state curriculum frameworks when selecting course content. Science methods courses should also model the inquiry approach and engage preservice teachers in reflective practices such as action research. This requires collaboration between faculty members in separate units of the University and the willingness of all involved. Students, faculty and classroom teachers will then participate in new and different types of learning and teaching environments. One model of this type of reformed teacher education program is present at the University of Michigan-Dearborn campus. Once this type of model is created, how do you evaluate its' impact? A comprehensive plan for evaluating an inquiry-based science education program will be presented along with preliminary findings. In brief, we are interested in knowing how the newly reformed science courses affect the knowledge/skills, attitudes and teaching behaviors related to teaching science to elementary students. To measure these dimensions we have selected and created a variety of evaluation measures. Since this is a work in progress, feedback from the audience regarding program objectives, measures and interpretations of results will be actively encouraged.