

Appropriating Scientific Discourse: Findings from Language Minority Classrooms

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Summary

We report a study of the effects of a collaborative inquiry approach to science on language minority students' (middle and high school) learning. The emphasis in this approach is on involving the students, most of whom have never studied science before and some of whom have had very little schooling of any kind, in "doing science" in ways that practicing scientists do. The question addressed in this study is, To what extent do students appropriate scientific ways of knowing and reasoning as a result of their participation in collaborative scientific inquiry? The focus of our analysis was on changes in students' conceptual knowledge and use of hypotheses, experiments, and explanations to organize their reasoning in the context of two think aloud problems. In September the students' reasoning was nonanalytic and bound to personal experience. They responded as if they were being asked to answer questions in a reading comprehension task. In contrast, by June they reasoned in terms of a larger explanatory system, used hypotheses to organize and give direction to their reasoning, and demonstrated an awareness of the function of experimentation in producing evidence to evaluate hypotheses.

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