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Summary: Constructing Scientific Literacy in Inquiry-Based Communities
of Science Practice

Key Words

Scientific Literacy, Inquiry, Discourse, Ecology, Macroinvertebrates.

Research Questions

Constructing Scientific Literacy in Inquiry-Based Communities of Science Practice

English Language Learners and socioeconomically disadvantaged students were studied from an ethnographic perspective in this research study. These high school students were engaged in the study of local fresh water ecology with their teacher, the researcher. Transcribed audiotapes of students' discourse, their illustrated guides to macroinvertebrates, their macroinvertebrate indices for two fresh water locations, their power point presentations of findings, and transcribed interviews with three focus students were utilized as data. Findings indicated that, for the most part, students were provided opportunities to enact scientific practices and communications and that they did indeed do so. More specifically, students learned to identify questions and concepts that guide ecology research, formulate and revise scientific explanations using logic and evidence, and communicate scientific arguments. However, students were not provided adequate opportunities to practice defending the scientific arguments they constructed and communicated. They also struggled at times to use scientific language. I close with recommendations for teaching and for conducting qualitative research with English

Language Learners in science. Qualitative research holds the potential for revealing what science learning opportunities promote scientific literacy development amongst socioeconomically disadvantaged students.