

ABSTRACT

Guiding Science Pedagogical Reform: Using Action Research

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Action research was used to evaluate the current state of science education at a rural school in Trinidad and to guide pedagogical reform. The first research cycle investigated Form 3 students' perceptions of school science, the characteristics of science lessons at the school, and science teachers' perceptions of problem-based learning (PBL) as an instructional strategy. Students' data were collected using Section F of the Relevance of Science (ROSE) questionnaire, and interviews, while classroom observations and interviews were conducted with teachers. Research in this cycle revealed that students had positive perceptions of school science when their desired careers required qualifications in science. Otherwise, students had negative perceptions of science and chose to opt out at the earliest opportunity. The second research cycle involved the design, implementation, and evaluation of a PBL activity in physics. Students had positive perceptions of PBL, and their levels of achievement indicated that PBL was a useful pedagogical strategy in physics.

Keywords: Science education; Rural schools; Action research; Secondary school science; Teaching methods; Student attitudes; Problem based learning; Trinidad and Tobago