

Public Abstract

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Title: Achieving a coherent curriculum in second grade: Science as the organizer

The purpose of this study was to examine how a team of four second grade teachers used their approach to teaching science as a means for designing and implementing a coherent curriculum. Within this study, curriculum coherency refers to making logical instructional connections that are both visible and explicit for students. A teacher using a common teaching strategy or critical thinking skills in such a way that the commonalities between subject areas are clearly demonstrated to students is one example of curriculum coherency.

The research framework guiding this study was phenomenology; I used a case study method for data analysis. The primary data source was field notes gathered during 10 weeks of classroom observations. Secondary data sources included observations of team meetings, two sets of interviews with each of the four teachers, and an interview with the school principal. Artifacts used and developed by the teachers were gathered to support the field notes.

An analysis of the data led me to interpret the following findings: 1) the teachers viewed science as a tool to motivate their students to learn and believed in teaching science through an inquiry-based approach; 2) they described science inquiry as a process of thinking organized around questions, and saw their teaching role as shifting between guided and open classroom inquiry; 3) they taught all subjects using an inquiry-based approach, emphasized the process skills associated with doing scientific inquiry, and consistently used the language of the process skills throughout their instruction of all disciplines; 4) their team's collaborative approach played a significant role in achieving their vision of a coherent curriculum; the successfulness of their collaboration relied on the unique contributions of each member and her commitment to professional development.

This study demonstrates how an inquiry-based science curriculum can provide educators with an effective model for designing and implementing a coherent curriculum. Furthermore, the findings have implications for elementary preservice and inservice programs with respect to using science teaching as a foundation for developing curriculum coherency.