

ABSTRACT

The Feasibility of Introducing Biotechnology into the Sixth Form Biology Curriculum in Trinidad and Tobago

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The thesis identifies biotechnology as a fast-growing area of scientific development and explores the feasibility of its introduction into the sixth form biology curriculum. There were three aspects to this research.

The first was a needs assessment in which a sample of Trinidad sixth form students, teachers and biotechnologists were the respondents. The findings establish the need for the introduction of biotechnology and identify suitable content areas and appropriate strategies for its enactment. The country's biology curriculum supervisor shared this sense of need.

The second phase was the development of curriculum materials for the proposed innovation. Current trends in science education, the researcher's personal experience of science teaching, reports on the teaching of biotechnology in other contexts, the literature on curriculum development and the findings of the

needs assessment informed the decision to use researcher-developed student workbooks. A relativist/constructivist perspective undergirded the entire inquiry and was reflected in the objectives, content, teaching strategies and assessment procedures embodied in the design of the two workbooks.

The final phase of the research was an illuminative evaluation of the innovation in use in three sixth forms. Classroom observations with the researcher as participant observer, teacher interviews, student focus group interviews, students' written responses in the workbooks and the researcher's reflexive journal were the data sources employed in this naturalistic inquiry. A hermeneutic phenomenological approach to data analysis yielded descriptive accounts that were represented as case studies. All aspects of the research supported the conclusion that the introduction of biotechnology into the sixth form biology curriculum is feasible. Feasibility is indicated by the evidence of need as well as by the fact that the innovative materials facilitated teaching and learning and resulted in positive student outcomes. The inclusion of relevant literature in each of the chapters of the thesis reflects the role of literature in hermeneutic phenomenological inquiry.