

ABSTRACT

Computer-Based Education in Contemporary Jamaican Classrooms:
With Special Reference to the Secondary Mathematics Programme.

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THE PROBLEM

Students in the Secondary System of Jamaica are not coping in the Area of Mathematics.

There continues to be low levels of performance seen especially in terms of students' successes in external examinations.

BACKGROUND AND PURPOSE OF THE STUDY

Over the years, the consensus among Jamaican educators is that proper understanding and hence application of Mathematics have been generally unsatisfactory. It has been stated by these educators that the problem at the secondary level is largely rooted in qualitative and quantitative deficiencies at the primary level, also deficiencies in staffing, and the non-homogeneous nature as well as large size of classes at the secondary level.

In an effort to improve secondary level performances, the Ministry of Education sought to develop the capabilities of schools to use a wide range of non-print media such as films, radio, television, and most recently the computer.

The purpose of this study is to examine the extent to which CBE has been successful in addressing some of the factors which lead to low levels of performance in Mathematics, in the project institutions.

PROCEDURE

A survey of the Computer-Based project in two secondary institutions of urban Jamaica was conducted. The project was set up by Control Data Corporation of Minnesota, in conjunction with the Ministry of Education. Survey instruments were questionnaires, interviews and tests. The data obtained were analysed manually and by computer.

RESULTS AND CONCLUSIONS OF THE STUDY

The findings that Computer-Based Education, as implemented in the project:

- * improved mathematical performances in computational skills but did not address problem-solving skills and coping with abstraction;
- * did not for the most part foster better attitudes in students at the project-school towards Mathematics;
- * did not address teacher shortage;
- * did not cope significantly with non-homogeneous class groupings for Mathematics;
- * seemed intimidatory to young teachers;

* seemed more acceptable as a support system for teachers in the teaching of Mathematics, lead both teachers and students to the view that this system has the potential to be of strong support in the teaching and learning of Mathematics, but not to take over complete instruction of any individual or group for a protracted period of time. It was also found that the restricting nature of the 'read-only' software used, could not cater to individual differences as they relate to background and exposure, interest, and proficiency.

The suggestion is therefore, that serious effort be made to integrate Computer-Based Education and traditional teaching, so that students will benefit from the best of both systems combined. Emphasis must therefore be placed on the training of personnel to design, function in, monitor, and co-ordinate the synthesized system. Matters pertaining to software and programme construction, housing of the system, and operations, have also to be given great consideration.

Further investigation will however be necessary before there can be any generalization about Computer-Based Education as methodology for the teaching of Mathematics.