

ABSTRACT

An Investigation Into the Relationship Among Certain Psycho-social Variables and Performance in Mathematics of Barbadian Students During the First Year of the Cambridge A-level Programme.

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This investigation was designed to examine the relationship among certain psycho-social variables (attitude to mathematics, locus of control, academic motivation and perception of the classroom environment) and the performance in mathematics of Barbadian students pursuing the first year of the Cambridge A-level mathematics programme.

The sample, which comprised of 135 students, (75 males, 60 females) was further analysed by mathematics grade obtained in the Caribbean Examination Council (General Proficiency) examination, and by the combination of subjects (science or non-science) being studied, inclusive of mathematics. The students were given a number of mathematics tests, based on selected topics from the A-level programme; and a battery of psychological tests, measuring the psycho-social variables under consideration.

Descriptive statistics and t-tests revealed that, in terms of performance in mathematics, females scored significantly higher than males; students with a CXC Grade 1 certificate in mathematics performed significantly better than those with a Grade 2 certificate; and science students performed significantly better than non-science students. It was also found that the non-science students displayed a negative attitude to mathematics, were the least academically motivated, and expressed the greatest dissatisfaction with their classroom learning environment.

From the correlation analyses, significant positive relationships emerged between performance in mathematics and the variables self-concept in mathematics, perception of teacher, enjoyment of mathematics, and motivation in mathematics. A negative correlation emerged between anxiety in mathematics and performance in mathematics.

The Step-wise Multiple Regression analysis revealed that self-concept in mathematics was the best predictor of performance for most groups and, together with classroom competition and the value of mathematics, explained 28.8 percent of the variance in performance for the total sample.

Implications for the teaching of mathematics at this level, particularly with respect to non-science students and students with a CXC Grade 2 certificate were also discussed.

Keywords: Marlene Eudora Folkes Griffith, Performance in mathematics, Attitude to Mathematics, Locus of Control, Academic Motivation, Classroom Learning Environment, Previous CXC grade, Subject combination.