

DETERMINANTS OF MATHEMATICS ACHIEVEMENT AMONG G.C.E. (O/L) STUDENTS: A STUDY IN THE KALMUNAI EDUCATION ZONE

A. Sanjeevan¹, M.T.M. Dewasurendra^{2*} and K.M.N.M. Chathuranga²

¹*Postgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka*

²*Department of Mathematics, Faculty of Science, University of Peradeniya, Peradeniya, Sri Lanka*

**mangalagama.dewasurendra@sci.pdn.ac.lk*

This study investigates the factors influencing mathematics achievement among G.C.E. (O/L) students in the Kalmunai Education Zone, Sri Lanka. The research explores the impact of socio-economic background, school infrastructure, teacher quality, student motivation, and parental involvement on students' mathematics performance. Data was collected from 96 teachers across various schools using proportionate random sampling technique. Structured questionnaires were administered through direct distribution and collection method. Data analysis was conducted using SPSS software, employing correlation analysis and one-way ANOVA tests at $p < 0.05$ significance level. Correlation analysis revealed that student motivation is the strongest positive correlation with mathematics achievement ($r = 0.70$), and ANOVA results showed significant differences across all factor categories. The study concludes that all identified factors significantly influence mathematics achievement, with student motivation and parental involvement showing the strongest impact. A multi-faceted approach, which addresses these determinants, can substantially improve mathematics achievement in the Kalmunai Education Zone. The findings of this study highlight the complex interplay of factors that contribute to the academic achievement of students in mathematics. To improve students' performance, a multi-dimensional approach is required, focusing on enhancing socio-economic conditions, improving school infrastructure, investing in teacher quality, fostering motivation, and encouraging parental involvement.

Keywords: Mathematics achievement, Parental involvement, School infrastructure, Socioeconomic factors, Student motivation