



Methodological Evaluation of Secondary School Systems in Tanzania Using Quasi-Experimental Design for Clinical Outcomes Assessment

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Abstract

This study evaluates the secondary school systems in Tanzania through a quasi-experimental design to measure clinical outcomes. A mixed-methods approach combining quantitative statistical analysis with qualitative field observations was employed. The quasi-experimental design included a pre-test/post-test control group methodology to evaluate changes in student performance over time. The study identified a significant improvement ($p < 0.05$) in mathematics scores among students exposed to innovative teaching methods compared to traditional methods, with an effect size of 0.4 on the Cohen's d scale. The quasi-experimental design proved effective in isolating the impact of educational interventions on student performance outcomes. Further research should explore scalability and sustainability of these findings across different schools and regions in Tanzania. secondary education, Tanzanian schools, clinical outcomes, quasi-experimental design, mixed-methods approach Model estimation used $\hat{\theta} = \operatorname{argmin}\{\theta\} \operatorname{sumiell}(y_i, f\theta(\xi)) + \lambda lVert\theta rVert^2$, with performance evaluated using out-of-sample error.

Keywords: Tanzania, Quasi-experimental design, Methodology, Educational evaluation, Clinical outcomes, Quantitative analysis, Qualitative research

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