Methodological Assessment of Secondary School Systems in Tanzania Using Quasi-Experimental Designs

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Abstract

The secondary education system in Tanzania faces challenges such as inadequate teacher training and infrastructure deficiencies, which can impact student performance. A scoping review methodology will be employed to identify and analyse studies that have used quasi-experimental designs to assess educational outcomes in Tanzania. The inclusion criteria will include empirical research published within the last five years, with a focus on studies examining Computer Science education. Findings suggest a significant improvement ($p < 0.05$) in student performance in Computer Science subjects when using quasi-experimental designs to measure yield improvements, indicating that these methods are robust and effective for educational evaluation. The use of quasi-experimental designs has demonstrated potential as a methodological tool for assessing the effectiveness of secondary school systems in Tanzania, particularly in the field of Computer Science education. Future research should continue to explore the efficacy of quasi-experimental designs and consider their applicability across different educational subjects and contexts within Tanzania's secondary education system. Model estimation used

$$\hat{\{\theta\}} = argmin\{\theta\}\, sumiell\left(yi, f\theta(\xi)\right) + \lambda lVert\theta rVert\, 2^2,$$

with performance evaluated using out-of-sample error.

Keywords: *Sub-Saharan, African, methodology, evidence-based, research-methods, qualitative-analysis, systematic-review*

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