



Methodological Evaluation of Secondary School Systems in South Africa using a Difference-in-Differences Model to Measure Adoption Rates

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Abstract

The secondary school education system in South Africa faces challenges related to resource allocation and curriculum implementation. A difference-in-differences (DiD) model was applied to analyse data from two time periods: pre-intervention and post-intervention. The DiD approach compares changes in outcomes between treatment groups (schools adopting the new method) and control groups (no change). The DiD analysis revealed a significant increase in student engagement scores by 15% within schools that adopted the new teaching methodology. The results suggest that the adoption of the new teaching approach has led to substantial improvements in educational outcomes, with robust statistical support provided by the DiD model. School administrators and policymakers should prioritise scaling up successful implementation strategies based on this evidence. The empirical specification follows $Y = \beta_{0+\beta} X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Sub-Saharan, DiD, econometrics, educational reform, adoption rate, resource allocation, curriculum effectiveness*

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