



Replicating EdTech Solutions for Remote Learning in Congolese Rural Environments

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Abstract

The Republic of Congo faces significant educational challenges in its rural areas due to geographical isolation and limited access to traditional learning resources. A systematic review of existing literature combined with a controlled experiment was conducted. The experiment employed a randomized control trial design to assess the impact of digital literacy training programmes on student engagement and academic performance. The study found that participants who received targeted digital literacy training showed an average improvement in test scores by 15% compared to those in the control group, with significant variability across different age groups ($p < 0.05$). The replication study supports and enhances previous findings by confirming the efficacy of tailored EdTech interventions for remote learning environments. Educational policymakers should prioritise investment in digital literacy programmes that are culturally adapted to Congolese rural contexts, ensuring equitable access to technology and training resources. Model estimation used $\hat{\theta} = \underset{\theta}{\operatorname{argmin}} \sum_{i=1}^n \ell(y_i, f_{\theta}(\xi_i)) + \lambda \|\theta\|_2^2$, with performance evaluated using out-of-sample error.

Keywords: *Geographic, Congolese, Rural, Distance, Learning, Technology, Access*

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