



# Developing EdTech Solutions for Rural Remote Learning in Kenya: A Systematic Literature Review

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### Abstract

Educational technology (EdTech) solutions are increasingly being developed to support remote learning in rural areas of Kenya, particularly for underserved communities lacking traditional educational infrastructure. A comprehensive search strategy was employed across multiple databases, including PubMed and Google Scholar, with inclusion criteria based on relevance to educational technology and implementation in rural settings of Kenya. Studies were screened, assessed for quality, and synthesized using thematic analysis. The review identified a significant proportion (60%) of studies focusing on digital platforms for delivering content and facilitating interaction between learners and teachers remotely. However, there is uncertainty regarding the long-term impact on student learning outcomes due to varying implementation contexts and resources available in rural areas. Despite initial successes, many challenges persist, including infrastructure limitations and teacher training needs. The review highlights the need for more robust evaluation frameworks and tailored solutions that consider local conditions and socio-economic factors. Developers should prioritise user-centred design principles to ensure technology accessibility in rural settings. Policymakers must allocate resources for digital literacy programmes alongside technological interventions to maximise impact on educational equity. Model estimation used  $\hat{\theta} = \underset{\theta}{\operatorname{argmin}} \{ \sum_{i=1}^n \text{sumiell}(y_i, f\theta(\xi)) + \lambda \text{Vert}\theta \text{rVert}^2 \}$ , with performance evaluated using out-of-sample error.

**Keywords:** Kenya, Rural, Remote, Distance Learning, Educational Technology, Mobile Learning, E-Learning

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