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

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Abstract

Educational technology (EdTech) solutions are increasingly being developed to address educational disparities in rural areas of Ethiopia. A comprehensive search was conducted across multiple databases using specific keywords related to EdTech applications in education. Studies were screened based on predefined inclusion criteria and analysed using thematic synthesis. The review identified a significant proportion (45%) of studies focusing on mobile learning platforms, with themes including educational content delivery and user engagement strategies. While the majority of reviewed studies focused on mobile applications, there is potential for expanding interventions to include other technologies such as virtual reality and AI-driven adaptive learning systems. Further research should explore the effectiveness of these solutions in diverse rural contexts, with a particular emphasis on user acceptance and technological infrastructure challenges. Model estimation used $\hat{\{\theta\}} = argmin\{\theta\} sumiell(yi, f\theta(\xi)) + \lambda lVert\theta rVert 2^2$, with performance evaluated using out-of-sample error.

Keywords: *Sub-Saharan, rural, e-learning, mobile learning, m-education, pedagogy, technology assessment*

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