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Developing EdTech Solutions for Remote Learning in Tanzanian Rural Areas: A Technological Approach

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Abstract

Remote learning in Tanzanian rural areas faces significant challenges due to limited access to physical classrooms and digital infrastructure. A mixed-methods approach combining qualitative interviews with technology assessments was employed to identify needs and preferences among stakeholders including educators and learners. The analysis revealed a strong preference for interactive multimedia content (65%) over traditional text-based materials, indicating the need for more engaging digital resources. EdTech solutions tailored towards these preferences can improve learning outcomes in rural Tanzanian schools by enhancing engagement and accessibility. Investment should be prioritised in developing platforms that integrate interactive multimedia content to support remote learning environments. Model estimation used $\hat{\{}\theta\}=argmin\{\theta\}sumiell(yi,f\theta(\xi))+\lambda lVert\theta rVert2^{2}$, with performance evaluated using out-of-sample error.

Keywords: *Tanzania, Geographic Information Systems (GIS), Mobile Learning, E-learning, Virtual Reality, Open Educational Resources, Distance Education*

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