African Climate Change Impacts & Adaptation
(Interdisciplinary - incl

Mobile Learning Platforms for Numeracy Skills Development in Rural Ethiopian Villages: Performance Comparison with Conventional Methods

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Abstract

Mobile learning platforms have become increasingly popular for education in rural settings due to their accessibility and cost-effectiveness. In Ethiopia, there is a need to assess whether mobile platforms can effectively enhance numeracy skills among primary school students compared to traditional methods. A quasi-experimental design was employed, with two groups: a control group receiving traditional instruction and an experimental group using mobile learning applications. Numeracy test scores were collected from both groups before and after the intervention period. The mobile learning group demonstrated a statistically significant improvement in numeracy skills ($p < 0.05$), with a mean score increase of 15% compared to the control group, although this effect size was modest. Mobile learning platforms show promise for enhancing numeracy skills among primary school students in rural Ethiopian villages, though further research is needed to optimise platform design and usage. School administrators should consider integrating mobile learning into their curricula and allocate resources for ongoing maintenance and updates of the technology. Policymakers could support this by funding infrastructure improvements and digital literacy training programmes. The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p\, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Mobile Learning Platforms, Numeracy Skills, Primary Education, Rural Development, Accessible Technologies, Educational Technology, Blended Learning*

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