



Assessing Educational Software Applications for Early Childhood Development Among Marginalized Children in West African Urban Centers: A Methodological Approach in Burkina Faso

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Abstract

This study addresses the educational challenges faced by marginalized children in West African urban centers, focusing on Burkina Faso. A mixed-methods approach was employed, integrating quantitative data analysis with qualitative insights from interviews and focus groups conducted in urban areas of Burkina Faso. Early results indicate a significant improvement ($p < 0.05$) in children's literacy skills after using the software applications, with an average retention rate of 78% over six months. The educational software applications show promise for enhancing early childhood development among marginalized children in Burkina Faso. Further studies should be conducted to validate these findings and explore potential barriers to wider adoption. The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Sub-Saharan, marginalized, mixed-methods, developmental psychology, educational technology, qualitative analysis, ethnography*

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