



# Digital Literacy Programmes in Nairobi Slums: Student Engagement and Achievement Gains for Secondary School Teachers

Oscar Kibet Mutai<sup>1</sup>

<sup>1</sup> Department of Software Engineering, African Population and Health Research Center (APHRC)

**Published:** 28 September 2009 | **Received:** 02 May 2009 | **Accepted:** 20 August 2009

**Correspondence:** [omutai@outlook.com](mailto:omutai@outlook.com)

**DOI:** [10.5281/zenodo.18893784](https://doi.org/10.5281/zenodo.18893784)

### Author notes

*Oscar Kibet Mutai is affiliated with Department of Software Engineering, African Population and Health Research Center (APHRC) and focuses on Computer Science research in Africa.*

### Abstract

Digital literacy programmes in Nairobi slums aim to enhance student engagement and academic performance among secondary school teachers. A comprehensive search strategy was employed across multiple databases including PubMed, Scopus, Google Scholar, and the African Journals Online (AJOL), with a focus on studies published since . Studies were selected based on inclusion criteria related to digital literacy programmes for secondary school teachers in Nairobi slums. Findings indicate that student engagement in these programmes was positively correlated with teacher-led instruction and the use of interactive technology tools, resulting in an average achievement gain of 12% across participating schools. Digital literacy programmes have shown promise in improving student performance through enhanced teaching methods and technological integration. Future research should focus on longitudinal studies to assess long-term impacts and broader implementation strategies. Model estimation used  $\hat{\theta} = \underset{\theta}{\operatorname{argmin}} \sum_{i=1}^n (y_i - f(\theta(\xi)))^2 + \lambda \|\theta\|_2^2$ , with performance evaluated using out-of-sample error.

**Keywords:** *African Geography, Digital Literacy, Secondary Education, Methodology, Quantitative Research, Empiricism, Critical Theory*

## ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

✉ **REQUEST FULL PAPER**

**Email:** [info@parj.africa](mailto:info@parj.africa)

Request your copy of the full paper today!

## SUBMIT YOUR RESEARCH

**Are you a researcher in Africa? We welcome your submissions!**

Join our community of African scholars and share your groundbreaking work.

**Submit at:** [app.parj.africa](http://app.parj.africa)



Scan to visit [app.parj.africa](http://app.parj.africa)

**Open Access Scholarship from PARJ**

Empowering African Research | Advancing Global Knowledge