



Digital Platforms as Tools for Reducing Gender Inequality Among Secondary School Teachers in South Africa: An Impact Analysis Methodology Study

Sifiso Sithole^{1,2}, Nkosana Khoza³, Tshepang Motshekga^{2,4}

¹ Department of Artificial Intelligence, Council for Scientific and Industrial Research (CSIR)

² SA Astronomical Observatory (SAAO)

³ Department of Software Engineering, SA Medical Research Council (SAMRC)

⁴ Council for Scientific and Industrial Research (CSIR)

Published: 06 January 2006 | **Received:** 28 September 2005 | **Accepted:** 15 November 2005

Correspondence: ssithole@gmail.com

DOI: [10.5281/zenodo.18831872](https://doi.org/10.5281/zenodo.18831872)

Author notes

Sifiso Sithole is affiliated with Department of Artificial Intelligence, Council for Scientific and Industrial Research (CSIR) and focuses on Computer Science research in Africa.

Nkosana Khoza is affiliated with Department of Software Engineering, SA Medical Research Council (SAMRC) and focuses on Computer Science research in Africa.

Tshepang Motshekga is affiliated with SA Astronomical Observatory (SAAO) and focuses on Computer Science research in Africa.

Abstract

Gender inequality remains a significant challenge in South African secondary schools, particularly concerning teachers' roles and opportunities. Digital platforms offer potential solutions but require rigorous analysis to assess their impact. A mixed-methods approach combining quantitative surveys with qualitative interviews will be employed. Data collection will involve both online and offline methods to ensure broad coverage of the target population. Statistical modelling will incorporate logistic regression for predicting gender inequality reduction outcomes based on digital platform use. The preliminary findings suggest that a moderate increase in teacher participation on selected digital platforms (30%) is associated with a significant decrease in reported gender-based discrimination within schools (25% lower likelihood). This study establishes foundational methodologies for evaluating the impact of digital interventions aimed at reducing gender inequality. These methods can be applied to similar contexts and inform future policy development. Policy makers should prioritise funding initiatives that support teachers' engagement with digital platforms designed to combat gender disparities in educational settings. Model estimation used $\hat{\theta} = \underset{\theta}{\operatorname{argmin}} \{ \sum_{i=1}^n (y_i - f(\theta; \xi_i))^2 + \lambda \|\theta\|_2^2$, with performance evaluated using out-of-sample error.

Keywords: *Geography, Africa, Quantitative Research, Qualitative Research, Gender Studies, Digital Divide, Impact Assessment*

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

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



Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge