African Statistical Methods (Pure Science)

Theoretical Foundations for Evaluating Educational Robotics on STEM Literacy Among Rural Ethiopian Youth Centers in African Contexts

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Published: 06 November 2006 | **Received:** 07 August 2006 | **Accepted:** 20 October 2006

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DOI: 10.5281/zenodo.18828325

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Abstract

Educational robotics programmes have shown promise in enhancing STEM literacy among youth worldwide, but their effectiveness in rural Ethiopian contexts remains underexplored. Theoretical synthesis and model development will guide this study, with no empirical results presented due to the nature of a theoretical framework. The theoretical framework provides a robust foundation for future empirical research in this area, offering specific recommendations for educational robotics programmes in rural Ethiopian settings. Develop tailored curricula that integrate robot building and interactive coding sessions, and incorporate local STEM professionals as mentors to enhance the effectiveness of educational robotics programmes.

Keywords: *African Geography, Rural Development, STEM Education, Robotics Impact, Socio-Technical Framework, Educational Innovation, Youth Participation Analysis*

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