



Innovative Pedagogies for Strengthening STEM Education in Senegal: A Mixed Methods Study

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Abstract

Strengthening STEM education in Senegal has been a focus due to its importance for future economic and social development. A mixed methods study combining surveys with classroom observations and interviews was conducted across multiple schools in Senegal over two years. Classroom observations revealed a significant increase (30%) in student engagement levels when innovative teaching strategies were employed compared to traditional methods. Innovative pedagogies significantly improved student performance and interest in STEM subjects, particularly among younger students. Schools should integrate more creative and interactive learning activities into their curricula to improve educational outcomes. STEM education, Senegal, innovative teaching methods, mixed methods study

Keywords: *African context, ethnography, mixed methods, pedagogy, qualitative research, quantitative research, socio-cultural analysis*

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