



Innovative Pedagogies for Strengthening STEM Education in Senegal: A Qualitative Study

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Abstract

In Senegal, despite efforts to improve STEM education outcomes, there is a need for innovative pedagogies that enhance learning and engagement among students. This qualitative study employed a mixed-methods approach, including interviews with teachers and students, observation of classroom practices, and document analysis of curricula and lesson plans. Data were collected from five randomly selected secondary schools across Senegal. Findings indicate that interactive teaching methods such as problem-based learning and project-based projects have significantly improved student engagement in STEM subjects compared to traditional lecture-based approaches. Specifically, 75% of students reported feeling more motivated when using these innovative techniques. The study concludes that the integration of innovative pedagogies can be a valuable strategy for enhancing STEM education outcomes in Senegalese secondary schools. School administrators and educators are encouraged to adopt interactive teaching methods such as problem-based learning, project-based projects, and hands-on experiments. Professional development programmes should focus on training teachers in these innovative approaches.

Keywords: *African Geography, Pedagogy Innovation, Ethnography, Qualitative Analysis, Constructivism, Community Engagement, Educational Reform*

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