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Teaching Robots in Mathematics Education: A Comparative Study of Automated Learning Resources on Cognitive Skills Development in Somali Primary Schools in Botswana

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Abstract

This study examines the use of teaching robots in mathematics education within Somali primary schools in Botswana, focusing on the impact of automated learning resources on cognitive skills development. A comparative study design was employed, involving multiple schools in two regions of Botswana. Data collection included pre- and post-assessments of student performance on mathematics tests. The analysis revealed a statistically significant improvement in students' problem-solving skills after the intervention with teaching robots compared to control groups without such resources. Teaching robots have shown promise as an effective tool for enhancing mathematical cognitive development among Somali primary school students, particularly in Botswana. Regional differences were observed, suggesting that tailored approaches may be necessary. Future research should focus on developing localized educational programmes using teaching robots and conducting longitudinal studies to monitor long-term impacts of such interventions. teaching robots, mathematics education, cognitive development, automated learning resources, Botswana

Keywords: *Somali, Botswana, Robotics, Cognitive Development, Learning Resources, Educational Technology, Methodology*

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