

ABSTRACT

This study investigates the development of knowledge and skills in initial mathematics teacher education and the early years of teaching in Ghanaian basic schools. Despite significant curriculum reforms aimed at improving the quality of education, there has been limited research on how these changes impact early-grade mathematics teacher education. The study addresses this gap by exploring the content knowledge, pedagogical content knowledge, attitudes, and teaching efficacy beliefs of both pre-service and early career teachers in Ghana. Using a mixed-methods approach, the research collected quantitative and qualitative data through surveys and interviews. The participants included final-year pre-service teachers from four Colleges of Education and early career teachers from basic schools across Ghana. The findings revealed notable differences in the content knowledge and pedagogical approaches between pre-service and in-service teachers, with significant implications for improving teacher preparation programmes. Moreover, teacher attitudes toward mathematics and self-efficacy beliefs influenced their instructional practices and student outcomes. The study's results highlight the need for targeted interventions to enhance both content knowledge and pedagogical strategies in early mathematics teacher education. Recommendations are made for improving teacher education programmes to align more closely with Ghana's evolving educational reforms and the Global Proficiency Framework.

Keywords: Mathematics education, pedagogical content knowledge, teacher attitudes, early-grade teachers, pre-service teachers, in-service teachers.