

SENIOR HIGH SCHOOL MATHEMATICS TEACHERS' ASSESSMENT PRACTICES, THE FACTORS AFFECTING TEACHERS' USE OF ASSESSMENT PRACTICES AND THE EFFECTS OF TEACHERS' DEMOGRAPHICS ON ASSESSMENT PRACTICES TO SUPPORT STUDENTS' PROGRESS IN STEM EDUCATION

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THEME:

STEM education policy & practice

BACKGROUND AND AIMS

The African Union, through Agenda 2063, has responded to the Sustainable Development Goals (SDG) by setting out a vision for the continent with the aim of setting up diversified and industrialized economy which is environmentally sustainable with good governance. STEM education plays a role in developing human capital around education, healthcare and artisans which require general education to be provided at secondary level with a firm foundation in STEM education from the basic level to the tertiary level. However, teachers' assessment practices and factors affecting teachers' use of assessment practices have been identified to inhibit the teaching of mathematics in STEM education at the senior high schools in Ghana. Also, teachers' demographic characteristics such as age, gender, teaching experience and academic qualification influence teachers' use of assessment practices in the teaching of mathematics. This study explores Senior High School (SHS) mathematics teachers' assessment practices, the factors affecting teachers' use of assessment practices and the effect of teachers' demographics on assessment practices in mathematics within the STEM education in Ghana.

METHODOLOGY

The study used questionnaire for 308 (257 males and 51 females) Senior High School Mathematics teachers drawn from the Ashanti Regions of Ghana. The mean, independent t-test, and One-Way Analysis of Variance (ANOVA) were used to analyze the data.

RESULTS AND CONCLUSIONS

The findings showed that large class sizes, the nature of external examination questions and the high-stake attached to external examination hinder the effective use of teachers' practices in mathematics. Finally, there was significant difference in terms of gender, age, teaching experience and academic qualification with respect to teachers' practices and factors affecting teachers' use of assessment practices. Thus, the need to reduce large class sizes to support students' progress in mathematics in STEM education.