

The Technological Pedagogical Content Knowledge: A Case Of E-Schools Demo Project Teachers Teaching Grade 12 Transformation

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Abstract

This study reports on the technological pedagogical content knowledge (TPACK) displayed by mathematics teachers in the New Partnership for Africa's Development (NEPAD) e-schools Demo project in Lesotho when teaching high school mathematics. The study examines the technological pedagogical content knowledge of mathematics teachers teaching Grade 12 transformation. This study followed an interpretive paradigm through a qualitative research method to select a multiple-case study research design to examine the e-schools demo project mathematics teachers in three selected schools. Three mathematics teachers were who participated in a New Partnership for Africa's Development e-Schools Demo Project were purposively selected as participants in this study. Data were collected through the lesson observations and individual semi-structured interviews after completing the e-schools demo project. The data from the two instruments were transcribed into text, coded, categorized, and themes emerged. The findings revealed that mathematics teachers from the e-school project have a limited technological pedagogical content knowledge to teach transformation to grade 12 transformation, and was limited to content knowledge, address learners' challenges in the teaching of transformation, using technology to enhance learners understanding. Ultimately, the New Partnership for Africa's Development e-Schools Demo Project led mathematics teachers to awareness and consciousness about Technological pedagogical content knowledge and provided them with an ability to teach mathematics concepts using technology.

Keywords: content knowledge, pedagogical knowledge, technological knowledge, technological content knowledge, technological pedagogical knowledge