Predictors of Extent of Integration of Computers in Classroom Teaching and Learning among Science and Mathematics Teachers in Public Secondary Schools in Kwale County, Kenya

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Abstract

Investment in ICT infrastructure to improve teaching and learning in schools have been initiated by many governments globally with the effects being anticipated more in sciences and mathematics, subjects in whom students have continued to register poor performance year in year out. Despite all these investments, developing countries such as Kenya still report minimal rates of integration of ICT tools such as computers in classroom practice due to varied reasons. This study set out to review the extent to which demographic characteristics, attitude, self-concept and computer anxiety predict science and mathematics teachers extent of integration of computers in the teaching and learning of their subjects. Data were collected from 83 science and mathematics teachers purposively sampled from 24 public secondary school in Kwale County with ICT infrastructure for integration using a selfreport questionnaire adapted from the Teachers Attitude towards Computers Scale (Gattiker & Hlavka, 1992), the Teachers Computer Anxiety Scale (Barbeite & Weiss, 2004) and selfconcept instrument developed by Cambra and Silvestre (2003). The study findings revealed that though almost all the teachers had some basic training in ICT, they reported very low levels of utilisation of computers in classroom teaching. Further, it was observed that while teachers' qualification and computer attitude were significant predictors of the extent of their integration of computers into classroom practice (p0.05). Lastly, the study established that teachers' qualification and computer anxiety had a positive influence on extent of integration though attitude towards computer and self-concept had a negative influence. It is recommended that school administrators and Ministry of Education officers enhance supervision of the integration process to ensure that the ICT infrastructure already in schools are adequately utilised.

Key words: ICT Infrastructure, Computer Integration, Self – Concept

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