

Domain-Specific Beliefs of Biology Teachers about the Subject on the Integration of Technology in Instruction in Secondary Schools in Kenya

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Abstract

This paper focuses on the domain-specific beliefs of biology teachers about the subject and its instruction and the effect of these beliefs on the integration of ICT in instruction in secondary schools in Kenya. Information and Communication Technology has a critical role to play in helping education deliver its mandate of transforming Kenya into an industrialized nation as envisaged in the Kenya vision 2030. It is important that ICT is integrated in the teaching of all subjects in the school curriculum. Its application contributes to effectiveness in delivery of the content. However, this is met with many challenges as many teachers do not seem to prioritize its use in instruction based on their beliefs about the subject and how it should be taught. The study will investigate the domain-specific beliefs of biology teachers about the subject and its instruction and the effect of these beliefs on the integration of ICT in instruction in secondary schools in Kenya. The study will be guided by the following objectives: Identify the distribution of the teachers of biology in the three belief categories, determine how the teachers' beliefs affect frequency of use of technology in instruction, determine the effect of the teachers' beliefs on their perceptions about integration of ICT in instruction, and to establish the factors affecting ICT integration in instruction. The study will be based on the social constructivist learning theory by Lev Vygotsky. It will adopt the descriptive survey design, and targets secondary school principals, biology teachers, and form three students. Stratified and simple random sampling techniques will be applied to select respondents from the different categories of schools. Data will be collected using questionnaires, observation, and interview schedules and analyzed using means, frequencies, percentages and Analysis of variance. Data will be presented in form of tables, graphs and pie charts. The findings may pave way for interventions to facilitate proper integration and meaningful instruction which will lead to acquisition of the pertinent knowledge, skills, attitudes, and competence for further training. The study will benefit the following groups: teachers, Students, DQASOs, administrators who include School principals, Deputy Principals, Heads of Departments, Heads of Subjects, Curriculum Developers, and Curriculum support officers.