

Integration of ICT in the Teaching of Biology – A Case of Selected Secondary Schools in Mumias Sub County

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Abstract

Integration of technology in teaching and learning conforms to 21st century developments where global information is now readily accessible to the populace. Information communication and technology (ICT) is interactive and its non-linear properties highlighted by the hypertext techniques support the construction of knowledge. The hypertext method requires the renewal of the teaching techniques, the student being more active in their apprenticeship. This is in line with inductive method of teaching which is learner based unlike the deductive method where a teacher is the sole proprietor of knowledge in the classroom. This paper explores the extent to which ICT is integrated in teaching and learning in secondary schools in Mumias Sub-County to enhance Biology content delivery. The objectives of the study were to establish teachers ICT level, extent of ICT usage, support structures available for ICT usage, challenges faced by teachers in ICT integration in the teaching of Biology and strategies used by teachers to overcome the challenges. The rationale is based on the premises that use of ICT renders activity of the teacher more efficient, teacher- student relationship more lively and learning interesting. The study used descriptive survey design and was carried out in secondary schools in Mumias Sub-County-Kenya. The target population is 46 secondary schools. Stratified random sampling was used to select four counties and one private school that embrace ICT in their teaching and learning of Biology. This represents 10% of the schools in the Sub-County. Data was collected using questionnaires as the main instrument of data collection. Interview schedule for head teachers and classroom observation schedule was also used to give first hand information about ICT usage in the schools. Analysis of data was done using descriptive statistics and inferential statistics. Presentation was done by use of tables, percentages, charts, graphs and frequencies. The findings will exemplify what needs to be done in order to make teaching and learning of Biology more interesting and effective to enhance student performance in the subject.

Key words: Integration, Innovation, Pedagogy, INSET, Software, Hardware, Multimedia

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