

Active Learning through Smart Grid Model Site in Challenge Based Learning Course

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ABSTRACT

Smart Grid is a new and growing technology to developing countries. Its implementation and sustainability rely on well trained experts. Sustainability of the smart grid need local experts, hence a project named iGRID: Smart Grid Capacity Development and Enhancement in Tanzania was started. The project is running at the College of Information and Communication Technologies, University of Dar es Salaam. It intends to generate the necessary technical and scientific skills to ensure sustainable implementation of smart grid. iGRID project introduced taught PhD and Masters programs focusing on society, innovation and entrepreneurship in iGRID aspects, as well as to facilitate implementation of automation of monitoring, evaluation, analysis, control and management of electrical power system (smart grid) in order to improve delivery efficiency and to optimize operational costs in the electrical power system in Tanzania. The project made use of Challenge-Based Learning (CBL) methodology to engage students to work together with stakeholders in identifying challenges facing electrical power system in Tanzania. This paper presents the experience of using CBL methodology to achieve active learning to engineering students. The dynamicity of the teaching model, allowed students to acquire skills necessary to solve medium to high tech complex problems. The results build a continuous learning platform for students researching in electrical field.

Keywords: Active Learning, Smart Grid, Challenge-Based Learning, Tanzania.