

Presentation title: Knowledge transfer for microgrids sustainability

Abstract—Due to their decentralized energy resources coupled with island mode operation capabilities, microgrids are envisaged as solutions to improve electrical energy access levels. Microgrids are particularly essential in rural communities of developing countries that are distant from the central grid. The sustainability of microgrids, therefore, is as paramount as their implementation. Microgrids-related knowledge transfer is envisaged as one of the elements of microgrids sustainability. To facilitate microgrids-related knowledge transfer, training content is developed for three stakeholder categories (1) secondary school learners aged 14 – 18, (2) consumers of electrical energy services, and (3) BSc electrical engineering (BSc EE) students. The analysis, design, and evaluation model of design-based research (DBR), the revised Bloom’s taxonomy and the constructive alignment concept are employed during content development. Data that support DBR iterations are collected from Uganda and Tanzania. Data collection methods include focus group discussions, expert and structured interviews. Considering the electrical energy consumers and the BSc EE students, the content development process is summarized into a didactic architectural model.