

187–200 The Impact of Industry Participation on Challenge Based Learning

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Abstract:

The future of learning is being revolutionized by challenge based learning (CBL), where academia offers solutions to real life challenges. Unfortunately, in developing countries academia overlook the importance of involving stakeholders who are the prospective owners of the solutions developed. This is because of the weak link between academic institutions and industry in research and development activities. However, to solve real life challenges faced by the society the researchers need to work closely and continuously with the targeted community for them to get the sense of ownership and for the solutions to take into account all relevant factors. This paper presents the impacts realized when eight stakeholders were fully involved from identification to developing solutions of the challenges facing the electrical power sector in Tanzania which is wholly managed by a public utility company TANESCO from generation to distribution. Challenge based courses introduced in taught PhD and MSc programs were used to create the necessary skills but also to evaluate the effectiveness of the approach in realizing the intended objectives. Nine PhD and six MSc students were involved. The stakeholders' involvement helped the research students to align the identification of the challenges to be in line with societal perception rather being purely scientific and/or technical like excessive reactive power or skin effect and to work in multidisciplinary teams. This paper presents the process adopted in real life challenges identification, the proposed solutions to the identified challenges and how academia can link with industry in solving real-life problems facing the society, in particular the higher learning institutions in developing countries.

Keywords: challenge based learning; curricula; smart grid; engaging stakeholders; challenge driven education