

Challenges and evaluation of 'green' ICT for education in Tanzania

Abstract

Research in education has shown that technology can improve learning, reduce dropping-out rates, close achievement gaps (Stanford Institute, 2014). Skills associated with modern media and computer literacy are imperative for success in a modern, highly networked, global society (Goble, 2002). Costly modern media and computers are not readily available at all schools. Without proper equipment and knowledge, educators struggle to keep teaching standards up to expected levels, learners get frustrated, the achievement levels are poor (Statistical Publications, 2015).

African ministries of education underline the importance of improvements in computer literacy and access to e-education (Mbarawa, 2016). Information and communications technology (ICT) is regarded as a core pillar for success in modern education (Mufhandu, 2014) while short-lived computing devices pile up toxic electr(on)ic waste (Kitila, 2015). This dissertation investigates the implementation of an economical, efficient and highly ecological concept for schools, a 'green' ICT laboratory, following a new technological approach: virtualization with 'zero' clients.

key words: 'green' ICT, e-learning, computer literacy, WEEE, empowerment