

# **Role of Research on Effective Teaching And Learning in ODL Institutions: The Case Study of The Open University of Tanzania**

Joseph Magali

The Open University of Tanzania

Email: [joseph.magali@out.ac.tz](mailto:joseph.magali@out.ac.tz)

## **ABSTRACT**

*This study analyzed the role of research on effective teaching and learning in the open and distance learning (ODL) institutions specifically at the Open University of Tanzania. The paper examined the key variables to be considered for ODL research at the Open University of Tanzania. The study reveals that the studies done to assess the role of research at OUT are inadequate and lack coverage in ODL variables and methodology. The study recommends that more studies should be conducted to assess the perception of instructors and students on the ODL mode of teaching and learning at OUT and other higher learning ODL institutions.*

***Keywords: Role of Research, Effective teaching and learning, Open University of Tanzania***

## **INTRODUCTION**

Mnjagila (2012) asserted that Open and distance learning (ODL) enables learners to combine work and family responsibilities. Through ODL learners acquire knowledge through both face to face and distance learning. However, ODL in Tanzania, among other factors, is influenced by inadequate infrastructure development an inadequate research capacity in terms of financing and low interest to ODL issues. According to Romi (2017), e-learning system which is composed of instructor, learner, course, and information and communication technologies (ICT). Use of ICT enhances the interaction between instructors and students. Burgess (2010) argues that because of its cost advantage, accessibility, diversity and quality, ODL has played an enormous role in promoting initial teacher education and training since the 1960s. Moreover, in

developed countries, ODL is more preferred because of its capability in admitting students with diverse characteristics without discriminating gender, age, disability or ethnicity. Oladejo and Gesinde (2014) see the ODL as a viable and cost-effective system for providing better-individualized instructions. They also recommend African policymakers and planners to invest more in ODL. Khan et al. (2017) found that the determinants for adoption of ODL management systems are perceived institutional support, expertise, similarity, familiarity, informativeness, effectiveness, and experience. Hadullo et al. (2018) assert that the quality of e-learning management systems (LMSs) in developing countries at Jomo Kenyatta University of Agriculture and Technology is hindered by course design, content, social and administrative support, course assessment, learner characteristics, instructor characteristics, and institutional factors. Aldowah et al. (2018) asserted that information technology promotes quick learning. Aldowah et al. (2018) reported that the challenges facing the implementation of e-learning are gender, age, teaching experience, ICT experience and e-learning experience. ODL institutions use Open Educational Resources (OER) which according to UNESCO (2002), it integrates ICT and it allows a learner/a community to use it for noncommercial purposes.

However, D'Antoni (2009) asserted that the use of OER is low for most of the African countries. Brendan et al. (2009) argued that among the challenges faced OER development is lack of incentives and research, claiming that the researches concerning the use of OER are inadequate in the universities worldwide. Fozdar and Kumar (2007) argued that the role of research on student retention in ODL institutions has not explored adequately. There are scanty studies which assessed the role of research in promoting the ODL teaching and learning. For instance, N̄emavhola (2019) assessed the application of research activities in ODL focusing on engineering viewpoint at the University of South Africa (UNISA). Moreover, Wong, Zeng and Ho (2016) analyzed the ODL trends from 2005 to 2015 by reviewing the empirical literature. The empirical literature review analysis focused on the influence of culture, globalization and international cooperation. Furthermore, Kanwar and Balasubramanian (2014) analyzed how indigenous and exogenous factors influenced the ODL in China. Therefore, this

study assesses the role of research in promoting effective teaching and learning in ODL institutions, specifically at OUT.

## **Methodology**

The analysis of this paper is based on the empirical literature review. The author reviewed the studies done on the role of research in promoting effective teaching and learning in Tanzania and beyond. The author also analysed the studies done on ODL in Tanzania to ascertain the adequacy of the studies done on ODL in Tanzania. The paper used the African Journals Online, Directory of Open Access Journals, research gate, Emerald, Jstor, SAGE and Google Scholar databases to download articles. The key search words were ODL, Open and Distance Learning, Role of research, ODL and Tanzania, Open University of Tanzania and Role of ODL in the Open and distance learning. The data were analyzed by using the contents analysis. [The contents were the ODL concentration variables for the studies conducted in Tanzania. Similarly,](#) the study analyzed the adequacy of data analysis methods of the previous studies.

## **Literature Review**

### **Studies Done Outside Tanzania**

Fozdar and Kumar (2007) revealed that mobile learning technology has improved the students' retention for Bachelor of Science students at Indira Gandhi National Open University in India. The study revealed that mobile learning enhances students' teaching and learning because of its accessibility everywhere and at any time. This idea is supported by Al-Adwan et al (2018) who asserted that learning through mobile devices significantly and positively contributes to education delivery for students who are studying in higher education. By using Jordan as a case study, the study found that the factors that influence the intentions of students to adopt m-learning are the relative advantage, complexity, social influence, perceived enjoyment, and the self-management of learning. Therefore, considering these factors before the introduction of mobile e-learning in ODL institution promotes more understanding to learners. Naveed et al (2017) asserted that the advantages of E-Learning teaching are flexibility, freedom, accessibility, and lower costs. The study established that E-Learning barriers in Saudi Arabian universities are categorized into the student, instructor, infrastructure and technology, and institutional management dimensions. Chiwanga (2017) found that only 50% undergraduate and postgraduate students at the National University of Science and Technology (NUST) in Pakistan were using e-learning management systems in their

studies while 48% of the students were using LMS rarely per semester. The study demonstrated that lack of training in using the system, inadequate IT support, lack of motivation by lecturers, resistance to use the system by lecturers, poor internet connectivity and inadequate computers on campus influenced the students to use of the E-learning system at NUST. Wirawan et al. (2018) exposed that MahaDasha investment holding company uses open source moodle learning management system technology platform in its infrastructure activities in Indonesia. The analysis of data indicated that information quality and user readiness influenced users' satisfaction positively. This study indicates the e-learning platform not only used in higher learning institutions but also for production-oriented companies. Blignaut and Christo (2010) disclosed that 59.58% of ODL students at North-West University in South Africa can easily have accessed the computer, 28.4% have accessed the reliable internet frequently, 54.27%, used computers, 54.57% usually needed computer assistance and only 33.92% were learners who were having skills to use the computer.

The results from the study signified that low computer usage skills were the major challenge for ODL students in Africa. Dube and Scott (2018) found that the organizational factors that influence the adoption of technology at the Sakai Learning Management System in education in Zimbabwe were organizational factors, individual and technological factors including policy, budget, training, decision making, implementation and consultation techniques. Ansong et al. (2017) by analyzing the Sakai Learning Management System revealed that there was little adoption of e-learning platform in Ghana. Also, it was revealed that e-learning was highly associated with cheating and plagiarism among the students. McHarazo and Olden (2000) argued that problems of administration, funding and technology faced distance education in both Tanzania and Zimbabwe. Kanwar and Balasubramanian (2014) argued that ODL researches concentrate on both internal and external variables the internal variables focus on studying approaches, systems, and tools while the exogenous variables cover the ODL demographic economic, social, cultural and political settings. However, the study did not analyze how the internal and external factors influenced the effective teaching and learning in ODL institutions. N̄emavhola (2019) found that many staff at the University of South Africa (UNISA) had little opportunity to participate in research

duties because of administrative responsibilities. Wong, Zeng and Ho (2016) analyzed the open and distance learning studies done between 2005 and 2015. The findings indicated that there were inadequate studies which focused on globalization and cultural aspects and none focused on international partnership. The findings further revealed that the majority of the studies used the quantitative approach and from 2015 the concepts of online learning were familiar by most researchers. The empirical literature from different countries outside Tanzania indicates that factors that affect e-learning in higher learning institutions are almost the same for all developing countries.

### **Studies Done to Assess the Factors Influencing ODL in Tanzania**

Table 1 presents the analysis of the studies done to assess the operation of ODL in Tanzania. The analysis was done to identify the variable of the role of research in ODL in Tanzania. Table 1 indicates the author's title, sample size, methods for data analysis, findings and discussion on gaps to be covered by future studies. The gaps articulate the role of research in promoting learning at OUT and ODL institutions. Despite almost all studies do not articulate the role of research in promoting ODL, they give insights on the gaps which may be covered by future studies.

**Table 1: ODL studies done in Tanzania**

<b>Name of Author (s) and year of publication</b>	<b>Title</b>	<b>Methodology</b> <b>Sample size and data analysis methods, regions of study</b>	<b>Findings</b>	<b>Findings' gap</b>
Ngenzi (2012)	Challenges of E-learning in Open and Distance Learning (ODL): The Case of the Open University of Tanzania	Descriptive, sample size 20 undergraduate students and 10 academic staff, and 5 ICT technical staff. The study was done in DSM region-compared to the total number of students at OUT, i.e>20,000 and Academic staff>300	Challenges of E-Learning at OUT are inadequacy of infrastructural facilities for both academic staff and students, low ICT knowledge for some staff and students and a negative mindset for staff and students.	The sample size is too small to draw a reliable conclusion. The postgraduates students were excluded in the analysis and the upcountry regional centres were also excluded
Rwejuna (2013).	Factors Affecting Completion Rates at the Open University of Tanzania.	Descriptive analysis, the sample size was 224 students from Dar es salaam, Dodoma, Singida, Arusha, Shinyanga and Tanga regions	The identified factors included examination feedback, students' commitment to studies, the financial status of students, availability of study materials, library materials, and quality of supervision	Despite wide coverage in terms of regions and relatively large sample size, the study did not focus much on the factors affecting the ODL model of teaching and learning
Kabage (2015)	Private Tutoring and Distance Learning Process at the Open University of Tanzania	Descriptive analysis, the sample size was 150 students and 6 private tutors, Dar es salaam and Katavi region	About 47% of students received private tutoring implying that blended mode is very important	The coverage of regions is not sufficient and also the focus is private tutoring and not how students perceive the use of ODL model

Mnyanyi and Mbwette (2009)	Open and Distance Learning in Developing Countries: The Past, The Present and the Future	A conceptual paper, the sample size and regions of study are not very clear	Acceptance of ODL mode in Tanzania among students and staff of OUT is constrained by resistance to change by OUT staff and students because they were used to only distance learning and lack of skills in ODL especially computer use act as a barrier	It was a conceptual paper, an empirical study is required
Nyandara (2012)	Challenges and Opportunities of Technology-Based Instruction in Open and Distance Learning: A Comparative Study of Tanzania and China.	Descriptive analysis, The sample size was 83-OUT and 61-China	In terms of practising and using e-learning instruction technology, Center for Continuing and Distance Education (CCDE -China) is doing better than the Open University of Tanzania (OUT).	The sample size is small and descriptive analysis is not sufficient to offer a reasonable conclusion
Mahai (2012)	ICT Based Support for Rural Students of the Open University of Tanzania: Perceptions, Challenges and Prospects.	Qualitative, the sample size is not very clear	The poor infrastructure in rural Tanzania, higher costs of Internet services, poor interaction between students and their peers and teachers, inadequate computer skills, and lack of access to ICT facilities	Qualitative study is not enough to give a reasonable conclusion

			hindered the effective application of ICT in teaching	
Samzugi and Mwinyimbegu (2012)	Accessibility of Open Educational Resources for Distance Education Learners: The Case of The Open University of Tanzania.	Descriptive, 120 students and 80 academic staff, regions of study are not very clear	The major constraints in the use of OER were library users' dependency on librarian assistance in accessing the resources, low internet connectivity, unreliable power supply and the inadequate number of computers.	More mixed studies are recommended
Mnyanyi et al (2010)	Implementing E-learning in Higher Open and Distance Learning Institutions in Developing Countries: The Experience of The Open University of Tanzania.	The sample size is unclear	Challenges of ODL at OUT are low digital bandwidth; expertise in e-learning; e-learning infrastructure; incentive packages for retaining skilled personnel; low budget, inadequate funding for research on ODL; and costs of e-learning equipment	The empirical current study for verification is needed
Nihuka .and Voogt, (2010)	Instructors and Students Competences, Perceptions and Access to E-Learning Technologies:	Descriptive analysis, 32 instructors and 208 students, regions of the study were Dar es salaam, Coastal and Morogoro	Both students and instructors have positive perceptions about using e-learning technologies and have competences on basic computer and internet	More studies are recommended to validate the results



	Implications For E-Learning Implementation at The Open University of Tanzania		applications.	
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## **Discussion**

### ***Gaps from the Previous Studies done in Tanzania***

The review of the literature indicates that there are some studies used qualitative analysis which generalized the findings. According to Sudeshna and Datt (2016), despite the qualitative approach enhances the detailed study of the research problem; it makes it difficult to generalize the findings, to make quantitative predictions and test hypothesis. Therefore, the credibility of the results from the qualitative analysis is relatively lower because its results depend on the experience and skills of the researcher and the qualitative research is also time-consuming. Also, descriptive research cannot answer the “why” and “when” questions satisfactorily. Descriptive research design cannot explain the cause-effect relationship. It has low requirements for internal validity and has a higher degree of systematic error (IPFS, 2016). Therefore, studies of explanatory designs for ODL studies are more recommended

Moreover, the sample sizes for some studies are very small to arrive at a reliable conclusion. The findings show that the high number of sample size is 240 which was used by Nihuka and Voogt (2010). However, other authors for example Ngenzi (2012) applied the descriptive analysis with a sample size of 35 respondents, which is not adequate for making a justifiable conclusion. According to Faber and Fonseca (2014), small sample size increases the results error and hence offers a possible chance of giving false conclusions. Suresh and Chandrashekara (2012) further asserted that for descriptive studies to give acceptable results, hundreds of subjects are needed in the analysis. However, the exact sample will depend on the confidence interval, sample size formula and whether the problem involves, power, effect or alternative hypothesis. Suresh and Chandrashekara (2012) asserted that experimental studies may use lesser sample compared to descriptive design. The studies further indicate contradicting results. For example, some authors report that some academic staff resisted e-learning (Mnyanyi and Mbvette, 2009; Ngenzi, 2012) while other assert that they are comfortable with ODL system (Nihuka and Voogt, 2010). Moreover, some studies asserted the students and staff possess the required internet usage skills (Samzugi and Mwinyimbegu, 2012) while others assert that low skills for staff and students act as a barrier towards the adoption of ODL mode (Mnyanyi et al., 2010; Mahai, 2012). These

contracting results require further verification studies. Most studies were conducted at Dar es salaam except Kabage who his study was conducted at Mpanda (Katavi-region) who focused on the importance of the course tutoring system. Nihuka and Voogt (2010) also focused the upcountry regions of Coastal and Morogoro arguing that more regions located far from Dar es salaam regions were not chosen for the study because of inaccessibility challenge. The author perceives that involving students and academic staff only from Dar es salaam and nearest regions restrict the reliable conclusion of the results for the whole country. Moreover, the author perceives that since OUT is located in each centre, Director of Regional Centers might be used to facilitate data collection without physical travelling. Moreover, online data collection methods such as zoom may be used. Rwejuna (2013) distributed questionnaires to Director of the regional centres of Dodoma, Singida, Arusha, Shinyanga and Tanga regions. However, his study concentrated on the factors influencing OUT students' dropout rather than those which influence the adoption of ODL system. The literature likewise, shows that there are no current studies that have been conducted to assess the factors which influence OUT staff and students ODL's model adoption. The study may cover the current perception of the use of the blended model.

### **Conclusion and Recommendations**

The paper finds that the studies done in Tanzania focus on other factors/variables than the role of research in promoting ODL in Tanzania particularly at the Open University of Tanzania. Moreover, despite the studies did not use the term "research" they analyzed the variables affected the ODL in Tanzania. The findings indicate that the previous studies used descriptive and qualitative designs and did not focus on how research affected the teaching and learning at OUT and other ODL institutions in Tanzania. the study recommends the use of mixed-method designs and use of advanced data analysis methodologies such as regression analysis, factor analysis and structural equation modelling (SEM), Therefore, the author recommends that studies should be conducted to assess the role of research on promoting the ODL teaching and learning at OUT and Tanzanian higher learning institutions.

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