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The Power of ICT in Higher Education Teacher Training: The Case of MEDCDD at Open University of Tanzania

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***Abstract*:** *This paper discusses the potential of ICT as a means for conducting in-service teacher and other professional training programmes. It draws experiences from the Open University of Tanzania to unveil the usefulness of ICT in training of teachers and other professionals in extended landscape, without requiring them to assemble in one centre. The discussion learns from related literature that ODL teaching and learning was effective only if high quality and user-friendly study materials and environment were designed to facilitate and enhance self-study on one hand, and utilization of interactive communication and information technologies in specific contexts on the other hand. However, infrastructural capacity, effective methods for managing staff in online teaching and learning environment, and feedback to students were the factors inhibiting effective delivery of ODL programmes at Open University of Tanzania. Focus Group Discussions and review of documentation were employed to gather qualitative data which revealed that de-facto on-line training programmes could only yield optimal results if the environment were considerate of required on-line tutoring infrastructure and support systems. It is recommended that planning of ODL programmes should very carefully consider and strategize for ICT-rich teaching-learning environment in terms of required infrastructure.*

***Keywords*:** *Curriculum Design, Curriculum Development, Distance Learning, Open Learning*

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I. Introduction

This paper attempts to show the power at exposure of Universities and Higher Learning Institutions to more efficiently and cost-effectively deliver their Open and Distance Learning (ODL) programmes using Information and Communication Technology (ICT). It utilizes some experiences deriving from Curriculum Design and Development (CDD) programmes of the Open University of Tanzania (OUT) to unveil designs, strategies and partnerships employed to serve students across a number of countries in Africa and beyond, through Moodle learning management system (lms). CDD programmes referred to in this paper include Postgraduate Diploma in Curriculum Design and Development (PGDCDD) and Master of Education in Curriculum Design and Development (MEDCDD), all of which are mainly offered through ODL mode of delivery. The two programmes emanate from the partnership between Tanzania Institute of Education (TIE), UNESCO and OUT which was first signed in July 2011, and later in 2014 between OUT and UNESCO. In this partnership UNESCO is symbolized by the International Bureau of Education (IBE) and the Regional Bureau for Education in Africa (BREDA) which had a duty in whole Sub-Saharan region to advance mutual knowledge and understanding, give fresh impulse to education and spread of culture, and help to maintain, increase and disseminate knowledge, all of which depended on know-how of curriculum design and development [1]. According to OUT in its Rolling and Strategic Plan document, the inclusion of BREDA was important because all African countries were required to consolidate their efforts in these areas, if they had to meet the 2030 global education agenda and national priorities [2].

Whereas teacher education is construed as the policies, procedures, and provisions through which in-service or prospective teachers are equipped with the knowledge, attitudes, behaviours and skills they require to perform their tasks in schools, classrooms and or wider community [3], ODL is about education or learning programmes which combines the ability to study from distance (distance education) on one hand, and the ability for anyone to access the programmes (open learning) on the other hand [4]. As an ODL institution, OUT was established by Act No. 17 of 1992, and became operational on 1st March 1993 by Government Notice No. 55 as a full-fledged University offering degree and non-degree programmes [5]. As a full-fledged University, its core functions therefore include teaching and learning, research and publications, consultancy and community services. In the teaching and learning function, it is required to offer affordable, innovative, relevant and quality programmes, as well as providing enabling environment for integrated continuous learning not only to its students but also its staff [6].

In its Rolling Strategic Plan, it is revealed that OUT programmes target employed staff who could not study in conventional universities due to varied career commitments; women who could not leave their families; people in remote rural areas not able to easily access urban-based education service centres; school leavers with minimum entry requirements but could not be admitted in conventional public universities due to capacity limitations; people with disabilities, and those with qualifications but could not meet the big tuition fees charged by conventional universities, and all those aspiring to attain university education but unable to do so due to challenges posed by conventional system. By 2006, the cumulative student enrolment in its various degree and non-degree programmes reached a total of 37,385 students; qualifying OUT as the largest tertiary institution in the country, in less than 15 years of operation.

The CDD programmes in relevant area of specialization, seek to strengthen the capacities for designing and development of curriculum among education and training, as well as management, research, monitoring and evaluation practitioners. The programmes target curriculum developers, teacher educators, graduate serving teachers, school inspectors, examination officers as well as educational planners and policy makers at local and regional level, for enhancing the competencies of not only teachers but also all other practitioners involved in planning, design and implementation of education and training programmes in the region [7]. It is a group of practitioners who possession of curriculum-related competences for understanding, leading, researching, planning, designing, implementing, monitoring and evaluation were imperative, but conventional universities which were available had failed to sufficiently provide. Introduction of CDD programmes was able to bridge this gap because of comparative advantages accruing from their design which utilized ICT to serve the clients from where they were. Since 2011 through 2016, the programmes enrolled 274 participants from 43 countries of Africa and beyond, with average completion rate above 90%, which partly shows the programmes were long awaited but right means for reaching the needing clients were yet to be devised [8]. Table 1 show the number of participants and countries of origin which the use of Moodle lms has enabled to enroll CDD participants between 2011 and 2017.

Table 1: CDD Programme Enrolment Trend and Participants' Countries of Origin 2011-17

S/N	COUNTRY	2011/12	2012/13	2013/14	2014/15	2016/17	TOTAL
1	Tanzania	15	17	18	16	24	90
2	Ethiopia	4	-	01	01	-	6
3	Uganda	4	07	04	08	09	32
4	Lesotho	3	02	05	-	-	10
5	Benin	2	-	-	-	-	2
6	Gambia	2	01	02	-	-	5
7	Seychelles	2	-	02	-	-	4
8	Kenya	1	01	01	02	-	5
9	Guinea	1	-	-	-	-	1
10	Benin	1	-	-	01	-	2
11	Ghana	1	02	01	-	-	4
12	Switzerland	1	-	-	-	-	1
13	Mauritania	1	-	-	-	-	1
14	Niger	1	-	03	-	05	9
15	Cameroon	1	-	-	-	-	1
16	Zambia	-	03	04	05	05	17
17	Angola	-	01	-	-	-	1
18	Mozambique	-	01	-	-	-	1
19	Guinea Bissau	-	01	-	-	-	1
20	Egypt	-	02	-	-	-	2
21	Swaziland	-	02	02	03	01	8
22	Nigeria	-	01	-	01	-	2
23	Botswana	-	02	-	-	-	2
24	South Sudan	-	01	03	01	01	6
25	South Africa	-	-	01	-	-	1
26	Senegal	-	-	07	-	-	7
27	Togo	-	-	01	-	03	4
28	Rwanda	-	-	02	03	03	8
29	Burundi	-	-	07	07	03	17
30	DR Congo	-	-	01	02	-	3
31	Burkina Faso	-	-	04	-	-	4
32	Botswana	-	-	02	-	-	2
33	Cameroon	-	-	02	-	-	2
34	Tunisia	-	-	01	-	-	1
35	Liberia	-	-	-	02	-	2
36	Sudan	-	-	-	02	-	2
37	Philippines	-	01	-	-	-	1
38	UK	-	01	-	-	-	1

39	USA	-	01	01	-	-	2
40	Russia	-	-	01	-	-	1
41	Finland	-	-	01	-	-	1
42	France	-	-	01	-	-	1
43	China	-	-	-	01	-	1
TOTAL		**40**	**47**	**78**	**55**	**54**	**274**

Source: CDD Annual Reports, OUT [9]

As earlier pointed out, CDD is a partnership typical of Lankard's [9] conception in a discussion of business and education category; that they are cooperative relationships which are formed for a variety of reasons. These may include human capital development, community development and students' achievements of financial impacts. He further submits that partners usually agree to provide material, financial services or any other incentives and resources to achieve individual goals and objectives as well as those intended in a partnership at the same time. In the case of OUT-UNESCO's CDD partnership, each member is bound to specified roles to ensure smooth implementation. OUT on one hand is required to manage online application and registration of applicants; ensuring quality coordination, administration, management and logistics of online training platform and the face-to-face sessions as well as sustainability of the programmes among other things. UNESCO on the other hand is required to provide technical expertise in development of capacity of OUT staff to fully run the programmes; and making available to OUT the experiences from similar regional programmes implemented elsewhere e.g. at Uruguay Catholic University for Latin America and Caribbean, and Hamdan Bin Mohammed Smart University for the Arab region [10]. Lankard [9] provides a principle for security of partnerships; that partners require being committed and fully engaged in commonly shared vision, goals and objectives which conversely affect their operations, productivity, and profit line-elements to enable them become competitive in changing society. In the case of OUT-UNESCO partnership, each had individual vision, goals and objectives but as partners they strived to promote the development of quality curricula which in turn would enhance institutional capacities conversely fostering individual objectives of the two as well. ODL and therefore ICT were considered the ideal means for covering such wide latitude of operation which the shared vision, goals and objectives presupposed.

However, during a review meeting held in May 2017, partners observed a considerable number of challenges impeding successful pursuance of designated roles, especially those relating to efficiency of online learning platform and mechanisms for ensuring high quality teaching and learning. The challenges instructed some revisions in technological and instructional infrastructures available for serving extended clients, as well as quality assurance mechanisms geared to desired survival of the CDD programmes as well as the missions, goals and objectives of individual partner institutions.

II. Review of Related Literature

Issues of ODL as a mode for delivery of instruction in higher institutions of learning are partly discussed by Guri-Rosenblit [11] in her work describing how distance teaching universities could move to central position of higher education. Mnyanyi, C., Bakari, J. and Mbwette, T. [12] utilize this idea to visualize a '*state-of-the-art-distance-education-and-open-learning-practice*' for advanced, up to date and capacity building ODL deliveries. Institutions are therefore urged among other things, to ensure efficacy of strategies for reaching diverse student clientele, professional upgrading, focus on teaching, harnessing of technologies and provision of extensive support system. Guri-Rosenblit [11] observes that many of distance teaching universities nowadays teach hundreds of thousands of students, which in turn requires information and communication technologies capable of addressing operational and quality challenges posed by large numbers of students. For example, Guri-Rosenblit [11] cites other authors who recommend adoption of high degree industrialization in large distance education institutions so that the processes of teaching and learning material development are modelled by the principles of rationalization; including division and sub-division of labour, specialization, objectification and automation. According to him, this would enable production of required quality instructional materials, lower per head cost and reasonable economies-of-scale [13].

The OUT 2016/17 Prospectus shows that majority of degree programmes are increasingly offered by e-learning (blended), mainly through Moodle, except for few programmes which may have enhanced short face to face sessions to complement e-learning as in BSc (ICT). There are also some study materials for some courses with stocks of hard copies and CD-ROMs. However, the document does not specify issues of bandwidth vis-à-vis increasing latitude of clients inside and beyond its borders [14]. The Poverty and Human Development Report for 2011 in Tanzania [15] indicate a demand for electricity which surpassed the supply, therefore suggesting regular power cuts consequently impacting on all programmes whose delivery relied on electronic devices and efficient supply of electricity. In the case of CDD programmes, the materials were available on Moodle and CD-ROMs, therefore also affected by online connectivity and electric power issues. In order to effectively deal with large numbers of students, it is argued by Guri-Rosenblit that it was necessary to ensure

teaching and learning processes were backed with efficient delivery and support systems; including smoothly-running communication channels, appropriately functioning administrative structures, and tutorial and counselling networks [13].

Reaching diverse student clientele requires flexible and open admission policies, coupled with array of support systems to cater for the needs of heterogeneous student populations (Guri-Rosenblit [11] & [13]; Mnyanyi *et al*, [12]). According to these authors, efficient support system reduces attrition and helps students to cope. Attrition otherwise threatens the life of any programme and students increased access which ODL programmes basically purports to widen and achieve. Ideal programmes therefore, should encourage working adults to pursue academic studies, professional refresher courses and or postgraduate diplomas while they continue working. They should also be those providing professional education and professional upgrading, especially to middle-class clientele. Teaching and learning should base on development of high quality, user-friendly study materials, designed to facilitate and enhance self-study and utilization of interactive communication and information technologies in specific contexts. Mnyanyi *et al* [12] in their study of technologically enhanced ODL found there were teachers and students who could afford buying own PCs but could not effectively use them for teaching and learning because they lacked some skills. Likewise, available reports for CDD programme implementation [8], show that there were considerable numbers of tutors who could not effectively communicate online with their students, due to lack of appropriate skills. It is also revealed that participation in discussions and forum platforms are rarely a practice to many students and instructors. This mishap worked against the use of online platform as a tool for learning, exchange and sharing ideas. These shortfalls worked against the culture of interactive learning and teaching which ODL requires.

In its efforts to widen the use of open and distance learning, UNESCO advocates for national capacity-building programmes, including activities to enhance policies, planning, administration, financing, personnel, production, technologies, and other capacities essential to the establishment and management of efficient ODL systems. The OUT-UNESCO partnership calls for the partners jointly producing, updating and providing training tools for the programme, thus reiterating a plea for new delivery methods, forms of educational organizations and reviews of education and training policies to curb the global economic, social and cultural challenges which conventional education systems had failed to properly address [16]. In the delivery and organization of CDD programmes, the agreement requires OUT to manage online application and student registrations, and ensure quality coordination, administration, management and logistics of the face-to-face sessions among other things. Its recognition of the role ICT should play is demonstrated by further stipulating that partners would jointly produce, update and provide training tools required for running the programme; including paper and digital formats interactive resource pack in various languages of instructions, as the core teaching and learning materials. However, the agreement does not clearly specify the quality standards of the tools or extent of provisions each partner would be required to observe. Other important tools and appliances like servers and licenses for necessary softwares are also not addressed. This laxity manifested in lack of clear policies for production and update of learning materials, capacity development of tutors, and management of online learning system [23]. As Poe and Stassen [4] clearly put it, teaching at a distance must be guided by clear policies on environment for effective teaching and learning online, tutor and student requisite capacity for effective use of online medium, tutor availability to students on extended basis as a condition for optimum online teaching and learning, and provision of feedback to students [3]. CDD programmes' review noted some existence of issues relating to use of Moodle as a learning management system and the way feedback was provided and communicated to students, which required effective resolution in order to realize the desired objectives [8].

III. The Problem

CDD programmes were designed to enhance the competences of education and training stakeholders in understanding, leading, researching, planning, designing, implementing, monitoring and evaluating decisions about curriculum and education in general. The MoU establishing the CDD programmes at OUT, describes the technical working group for managing the programmes, where the OUT Senate is the regulator of academic matters of the programmes. The use of ICT through Moodle lms was selected a medium of delivery for serving the extended landscape of participants. Despite these stipulations of the roles in the MoU, issues relating to infrastructural capacity, effective methods for managing staff in online teaching and learning environment, and feedback to students remained to be problematic in the expanding online teaching and learning landscape. An efficient supportive system requires being in place to resolve the challenges for institutions' survival, adaptation and prosperity as providers of ODL, as well as capacity developers for curriculum, teacher educators, serving teachers and other practitioners with stake in curriculum matters, education and policy making.

IV. Aim and Objectives

The paper purports to unveil certain critical ICT capacity related aspects for consideration in delivery of teacher education and training through ODL. Specifically, it seeks to:

1. Assess the ICT capacity of the CDD programmes as a strategy for in-service curriculum-related training of teachers and other practitioners in extended landscape;
2. Explore the challenges arising from ODL delivery in expanded environment, for suggesting alternative delivery modalities.

V. Research Design and Methodology

The view of reality about ODL, ICT and capacity building required considerations of soft, subjective experiences of individuals to yield the desired responses. In turn, this instructed the choice of qualitative inquiry as a dominant approach. Case study design was employed to portray, analyze and interpret the uniqueness of specific issues regarding ODL infrastructure in offer of CDDs, challenges arising due to ODL expanded landscape in offer of higher education, and different mechanisms for assuring the quality of offered programmes in the stakeholders' terms. As such, focus group discussion and review of documentation were the major techniques and sources of data. Data from documentation sources were employed only if they had not been produced specifically for this paper, but rather those which were naturally preserved and availed as support evidence to what had been done or happened. Whereas focus group discussion data were analyzed by pattern-matching, data from documents were analyzed by ethnographic content analysis.

VI. CDD as an ODL Capacity Development Strategy

Tutors' views regarding assessment of their own capacity as online instructors indicated they were not contented with their own performance. They argued based on absence of many students' results on the learning platform to derive a conclusion that they lacked some IT skills to be able to operate as competent online instructors. These responses coincided with the observations in the partners' review of the first year implementation of the MEDCDD, that both tutors and students experienced challenges due to skill shortages for effective application of the online pedagogy and assessment. As observed in the related literature (Guri-Rosenblit [11] & [13], Mnyanyi *et al*, [12]), lack of appropriate ICT skills among tutors and students was detrimental to required effective delivery of the programmes. It made it extremely difficult for the tutors to initiate, lead and effectively organize online discussion forums for maximizing interactions between them and their students. This also echoes the advice by Poe and Stassen [4] that when planning an online course, particular attention must be paid to the course components that may serve as stumbling blocks to students, drawing a particular attention to having clear and organized structures which allows flexibility for making adaptations in-between as well. Course planning requires being keen on creating learning communities and facilitating discussions, unlike the practice self-reported by MEDCDD tutors that they often substituted the lacking interactional skills by off-line communication through individual students' emails. Consequently, this was a limitation to students' access and share of advantages accruing from contributions by colleagues in anyone discussion. Since MEDCDD documentation also revealed that most tutors were recruited from conventional universities, it could be concluded that it was a technical oversight to engage them in the programme before attending a mandatory online tutoring capacity building orientation. However, these observations do not refute the capacity of online facilitation for conducting in-service training programmes to teachers without compelling them to leave their work stations. The tutors almost unanimously agreed that ICT and Moodle provided useful media enabling teachers and other practitioners to upgrade their professional competences while practicing them in the field at the same time, provided the necessary infrastructural considerations are adequately made.

It was also the tutors' response in the focus group discussion that they failed to demonstrate optimal performance because the learning management system was not sufficiently supportive. The Moodle platform in use was an old version lacking certain necessary applications for effective students' interaction and monitoring of the online learning and instruction. There were expressions that the internet was usually slow with low connectivity, implying a lower than required supply of bandwidth. The system also lacked certain basic softwares to enable synchronous instructions which according to Poe and Stassen [4] add value to an online teaching and learning programme. As such, much as the tutors required a capacity development intervention to make them effective, the teaching-learning management system in use also required to be upgraded to efficiently serve the tutors and students as required. Generally, the system required a resolution of infrastructural capacity issues to enable efficient delivery of the programme. Developing the capacities of tutors and students on one hand, and that of the learning management system on the other eased the acquisition of curriculum design and development skills and competences among serving teachers and other practitioners who otherwise would be obliged to leave their work stations for the same, something which contemporary conditions of employment do not favour.

VII. From Challenges to Opportunities

One of the aspects which was addressed in the focus group discussion with tutors was to identify the different curriculum design and development related challenges, and if CDD programmes were providing any relevant interventions. Whether CDD was relevant or not, there were a multitude of affirmative responses, most of which were based on trends in global vision about contemporary curriculum and the different challenges which they faced as practitioners. In the tutors' perceptions of CDD programmes, they viewed they were eye-openers to better understanding of the issues in curriculum design and development. For example; they noted that they were aware of public out-cry about formal education which was too academic and giving out incompetent graduands; lack of professional capacities to develop and implement curriculum among practitioners; teacher-centred practices; rigid formal education preventing continuous schooling for many children; and fragmented school cycles and curriculum content. Despite awareness, tutors and other curriculum experts were unable to effectively communicate and discuss with grass-root practitioners for solution to these challenges because they were scattered and sometimes away from their jurisdictions. With CDDs and through Moodle lms, practitioners were gradually becoming effective because they became able to access useful professional information which for different reasons they could not access, especially if conventional training institutions which had limited places were considered. The courses offered in CDD programmes intended to provide the participants with a multitude of competences which the respondents considered as effectively instrumental to resolving curriculum design and development related challenges. This response was weighed against the relevant programme specification documents to understand further the competences which the different CDD courses intended to provide which are also shown in Table No.2 below:

Table 2: MEDCDD Courses and Competences Intended

Code	Title	Status	Intended Competences
OEI 621	Curriculum development process	Core	Description of curriculum concepts, theories, issues and development process; Analysis of development process and challenges in a specified context; Planning and development of curriculum responsive to society demands in a candidate's local context; Analysis of issues on curriculum implementation in a specified context; Monitoring and Evaluation of curriculum.
OEI 622	Curriculum design approaches and models	Core	Exploring the historical development of education systems and curriculum changes; Analysis of the forces behind curricular changes; Impact of curriculum changes in development of curriculum for quality education; Examining different curriculum design approaches and models; Design and developing specific module, a unit of instruction or a specific course based on modern approaches to curriculum development.
OEI 623	Curriculum implementation process, management and governance	Core	Analysis of issues on curriculum implementation; Identification of stakeholders involved in the process and their needs; Development of appropriate capacity building programs; Designing and carrying out strategies for piloting, monitoring and evaluation; Description of basic concepts in curriculum leadership, management, and governance; Description and design of possible approaches for development, management and implementation of curriculum in specific contexts;
OED 626	Research Methodology	Core	Description of basic concepts in research; Exploring policy making and texts as well as processes which guide the use of research in curriculum; Exploring the role of research in curriculum development, evaluation and review; Analysis of nature of curriculum research and approaches used from international to local perspectives; Exploring the influence of educational theories (philosophy, sociology and psychology) on research in curriculum; Development of outlines for carrying out curriculum research on a specified area; Conducting a mini-research on curriculum targeting a specific process or product, analyze and synthesize information, write reports on curriculum issues.
OEI 625	Development and use of teaching and learning materials	Core	Preparation of various media materials for effective teaching and learning; Designing appropriate criteria for selection of relevant teaching and learning materials; Designing tools for evaluation of teaching and learning materials; Utilizing the local environment creatively to get materials for making improvised media for teaching.
OED 699	Dissertation	Core	Exploring the topics of students' interest for gaining expertise in curriculum design and development; Enabling students' contributions to the body of knowledge in curriculum design and development by providing original research findings.
OED 634	Curriculum and Leadership in Education	Elective	Strategies for turning non-performing institutions into performing units with acceptable quality products; Identification of alternative theoretical and practical routes to solving educational under-performance problems; Articulating the essential elements of good leadership in education
OEI 626	Curriculum quality control and assurance	Elective	Description of different concepts and issues relating to quality control and assurance; Description of components of curriculum quality control and assurance processes; Analysis of quality assurance systems at all levels; Description of monitoring and evaluation as a quality control mechanism.
OEI 627	Assessment of teaching and learning	Elective	Conceptualizing the historical development of assessment in teaching and learning; Analysis of the different types and methods of assessment; Assessing the way formative assessment enhances student learning; Design and develop alternative assessment tools to replace the traditional paper and pencil; Conducting assessment of students' learning.

OEI 628	Policy dialogue and formulation for curriculum development	Elective	Analysis of the trends in policies that guide curriculum process; Examining the issues that commonly prompt and shape formulation for curriculum development and changes; Identification of stakeholders by sector and interest involved; Examining the potential problems and areas of conflict arising from policy formulation and implementation; Identification of the ways for managing conflict and resistance; Analysis sensitive or challenging curriculum policy issues in particular socio-political and cultural contexts; Formulation of curriculum-related public policies to suit local contexts.

As earlier pointed out, the programme started in 2011 (table No.1) as a postgraduate diploma until 2016 when it was scaled-up to Master degree level. During the six years of offer, CDDs through Moodle have enrolled participants from 43 countries; eight of which are non-African countries. However, there was no tracer study that so far done, hence a lack of tangible evidence testifying the extent the competences accruing from CDD were being utilized by 274 students to transform their societies, nor was that one of the objectives for this study. Their usefulness after graduation depended on several factors, including the domestic policies guiding development and utilization of human capital in respective countries. In our context, it suffices noting that ICT had made ODL an enabler of curriculum designers and developers to extend their contributions in economic, social and cultural developments of their societies. It has bridged the gap formerly existing between the training institutions on one hand, and communities which frequently lamented about the ineffectiveness of structures where skills, knowledge and awareness of various issues of designing and developing curriculum would help to redress. In other words, curriculum designers and developers, training institutions and society have all developed their capacities through ICT and ODL as a mode of delivery in higher education generally and teacher training in particular.

VIII. Conclusion

This paper has assessed the role ICT can play in conducting in-service training of teachers and other practitioners in extended landscape, and explored the administrative and infrastructural challenges arising in management of such programmes and environments. Whereas ODL is construed as a distance learning programme which anyone is free to access, ICT refers to Information and Communication Technologies which organization and management of ODL require. Both the review of related literature and field data have shown a high potential of ODL programmes serving as an effective means for in-service professional training of teachers and other cadre working in scattered and extended environment, only if planning of the programmes makes adequate consideration of ICT requirements and learning management systems (lms) to be employed. As well, it is noted that teacher professional training through ODL should be as synchronous as possible in order to give out results over and above similar programmes provided in conventional training institutions. As such, ICT has eased professionalization of teachers in contemporary conditions of employment which do not favour releasing employees for in-service training programmes offered by conventional training institutions. ICT is powerful and capable of making teachers (and other cadres) undergo in-service training at their work places as long as adequate financial and other resources are provided.

References

[1]. Flier 'UNESCO Office in Dakar' (http://www.unesco.org/new/en/dakar/about-this-office)

[2]. The OUT Rolling Strategic Plan for 2008/09-2012/13, Open University of Tanzania (www.out.ac.tz).

[3]. Teacher Education, Wikipedia Free Encyclopaedia (https://en.wikipedia.org/wiki/Teacher_education).

[4]. Poe, M. & Stassen, M.L.A. (2012) *Teaching and Learning Online: Communication, Community and Assessment*, http://www.umass.edu/oapa/oapa/publications/online_handbooks/pdf

[5]. Open University of Tanzania Prospectus 2016/17 (https://www.out.ac.tz)

[6]. The OUT Rolling Strategic Plan 2008/09-2012/13, *ibid*

[7]. Open University of Tanzania (2015) Programme Specification for Master of Education in Curriculum Design and Development, Faculty of Education.

[8]. Open University of Tanzania 2012-2016 CDD Programme Implementation Reports, Faculty of Education

[9]. Lankard, B.A. (1995) *Business-Education Partnerships* (ERIC Digest No. 156), Columbus, OH: ERIC Clearinghouse on Adult Career and Vocational Education (http://www.ericdigests.org/1996-1/business.htm)

[10]. OUT & UNESCO (2016) Memorandum of Understanding between UNESCO and Open University of Tanzania (OUT) for implementing the Master of Education in Curriculum Design and Development (MEDCDD), Dar es Salaam

[11]. Guri-Rosenblit, S. (1999) 'The Agendas of Distance Teaching Universities: Moving from the Margins to the Centre Stage of Higher Education' in *Higher Education*, No.37 (3) pp.281-293, Accessed: DOI: 10.1023/A: 1003644305026 on 16.05.2017

[12]. Mnyanyi, C., Bakari, J. and Mbwette, T. (undated) Implementing E-learning in Higher Open and Distance Learning Institutions in Developing Countries: The Experience of The Open University of Tanzania, Accessed: journals.hbmeu.ac.ae/Pages/… on 18.05.2017

[13]. Guri-Rosenblit, S. (2012) Open/Distance Teaching Universities Worldwide: Current Challenges and Future Prospects, Available at EduAkcja.Magazyn.edukacji.elektronicznej.nr/2(4)/2012str.4—12 (NOTE: Section 2 'Change of technological and instructional infrastructures')

[14]. Open University of Tanzania Prospectus 2016/17 (https://www.out.ac.tz)

[15]. United Republic of Tanzania (2012) *Poverty and Human Development Report 2011*, Dar es Salaam: Ministry of Finance

[16]. UNESCO (2002) *Open and Distance Learning: Trends, Policy and Strategy Considerations*, Paris: Division of Higher Education, (http://unesdoc.unesco.org/images/0012/001284/128463e.pdf)

[17]. OUT (2016) Memorandum of Understanding between OUT and UNESCO for Implementing MEDCDD, (NOTE: Art. 4.1 which states "UNESCO (IBE and ESC/TED)shall: (i) Jointly with OUT produce, update, and provide the IBE-UNESCO Training Tools for Curriculum Development: a Resource Pack (TTCD, paper and digital formats in English, French and Spanish enabling use by Lusophone African countries), as the core teaching and learning materials…", without further specification of extent of provision by either party.)

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