TOWARDS EFFECTIVE ONLINE LEARNING IMPLEMENTATION IN TANZANIAN HIGHER LEARNING INSTITUTIONS: OBSTACLES, CHALLENGES AND OPPORTUNITIES

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ABSTRACT

This paper identifies and discusses several influential factors as well as opportunities, associated with effective online learning implementation in Tanzanian Higher Learning Institutions (THLIs). Fourteen (14) THLIs were surveyed, using face-to-face interviews in focus groups. The groups included Lecturers, Heads of ICT Departments, ICT Technical Personnel as well as Administrative Staff. Results indicate that mostly, problems with effective online implementation in THLIs are centred on a severe scarcity of online resources and tools and that the main challenges lie in going beyond the process of integrating technology with their teaching curricular, so that training of both teaching and supporting staffs also poses a big challenge in the process. In addition, opportunities for e-learning are totally unexplored because of the low pace of THLIs' online learning practices. In this respect, THLIs are required to devise and implement clear and well-defined e-learning strategies before they can move a step further.

Key Words: ICT, e-learning, online learning, THLIs

INTRODUCTION

Background

As many of today's traditional societies strive to transform themselves into knowledge-based ones, integration of technology with universities' teaching curricular is somewhat becoming a very challenging task. Whereas e-learning has already been incorporated in many universities in the developed world, in Tanzania, many universities however, are still *"learning about"* and not *"learning with"* the technology. This paper identifies and discusses problems (obstacles/challenges) as well as opportunities associated with effective online learning implementation in Tanzanian Higher learning Institutions (THLIs). The paper discusses these factors in the light of the existing efforts being made in order to implement effective online learning in Tanzanian universities' learning environment.

Overview of the Tanzanian ICT industry and its Potential to the Educational Sector

Robust and appropriate knowledge in today's society is produced in the context of application in collaboration between scientists, users, governmental bodies and other stakeholders. This in turn places new requirements on scientists as well as on technological specialists who will need to reframe their working tasks to include learning and reflection together with the users. E-Learning education is important in Tanzania because it allows knowledge to be brought to the learner wherever they are, and it is a big tool that can be used in dealing with problems such as poverty, unemployment, illiteracy, drug abuse, etc. Therefore, effective implementation of this practice in a Tanzanian educational environment is likely to build empathic relationships between the system producing the learning experiences and the learners themselves (Ndume, 2004).

Obstacles and Challenges of the Industry in Relation to Learning

There are technical aspects, specifically relevant to the use of ICT in African countries including Tanzania, which need to be addressed. These include languages and voice/touch screen applications, free software and development of content suited to local needs. Still, the introduction of ICT in a specific location has very specific meanings and consequences. In societies where oral communication and/or collective identities dominate, computers and the Internet have very different connotations

than they have in the literal and individual societies where they were developed. Computers can be regarded as taking time from social interaction, thus being a negative thing. Similarly, the language barrier to the Internet for people with other first languages than English is both real and symbolic. Some information systems are successful in one aspect, but regarded as negative or failed in other aspects. The employees might for example, find the system useful for informal purposes, while the usefulness is not reflected in increased income and thus not successful at management level. Gender and other social relations are affected by ICT, but not necessarily, in a manner that resembles previous experiences in other parts of the world (Rydhagen and Trojer, 2004).

Opportunities within the Industry

The ICT Industry in Tanzania is a catalyst for growth of the education sector and hence, the national economy. However, though relatively small and manageable, it suffers from many of the constraints prevalent in the economy at large. There are specific areas, which need re-examination. These are the telecommunications regulatory environment; funding and incentives to the sector, with a view to creating a dynamic venture capital market in Tanzania; the taxing system; and the importation process while examining ways in which ICT could be used to streamline and improve the integrity of the operations of customs. In addition, specific actions have to be taken by the industry to improve its bargaining position vis-à-vis government, for instance, through the creation of an umbrella industry body; establishment of an ICT cluster in Dar es Salaam as well as initiation of projects that are likely to have strong support from all stakeholders.

Moreover, continuing efforts will need to be made for some time to bridge the gap between school and industry/university. There are a number of worthwhile institutions and projects that could be supported, including: increasing the capacity of existing institutions such as the Dar es Salaam Institute of Technology (DIT) which appear to have an enthusiastic team operating in the technician training area but is short of funding and infrastructure. In addition, support for distance learning initiatives that aim at providing training for towns and rural centres outside of Dar es Salaam, where the great majority of ICT activity is concentrated, as well as the creation and support of a school networking body such as SchoolNet that could spearhead ICT programmes to the public and to schools. What is important here is the awareness of the constraints of the shortage of qualified teachers, lack of funding, etc. However, special attention should be paid on the sustainability of such a program in Tanzania; and on the introduction of internationally accepted certifications such as the International Computer Driving License (ICDL), which leads to consistent and accredited computer training.

General Influence of the Tanzanian ICT Industry on E-Learning

ICT is the only driver for e-learning worldwide. A good way to think about ICT is to consider, all the uses of digital technology that already exist to help individuals, businesses and organizations use information. ICT covers any product that stores, retrieves, manipulates, transmits or receives information electronically in a digital form, for example, personal computers, digital television, email, robots, etc. So ICT is concerned with the storage, retrieval, manipulation, transmission or receipt of digital data. Importantly, it is also concerned with the way these different uses can work with each other. In business, ICT is often categorised into two broad types of products namely the traditional computer-based technologies (i.e. things typically done on a personal computer at home or workplace) and the more recent, fast-growing range of digital communication technologies which allow people and organisations to communicate and share information digitally.

The Ministry of Communication and Transport issued the first National ICT Policy in 2003. It emphasizes the importance of enhancing the computer literacy level of school leavers by installing computers in schools, incorporating the use of ICT in schools curricular as well as through teacher training. It also provides a

national framework that will transform Tanzania into a knowledgeable society capable of achieving its national development goals (URT, 2003). So far, very little progress has been achieved. For example, by the year 2003, there were about 830 secondary schools requiring about 16,500 personal computers and 2 teachers with ICT training per school, to cover them all. Some secondary schools are still lacking electricity and most have no telephone. The countries' budget on schools is not in the position of accommodating all expenses for investments and operating costs, hence there is a need of looking for an alternative solution (Rydhagen and Trojer, 2004).

OBJECTIVE

The main objective of the research which led to this paper was to identify factors that influence the implementation of effective online learning in the Tanzanian Higher Learning Institutions (THLIs). In a combined form, they are divided into two influential parameters namely problems (factors that hinder effective online learning implementation, obstacles and challenges) and opportunities. The specific objectives can be stated as follows:

- To assess the availability (abundance or scarcity), of e-learning resources and tools in THLIs, by computing a "computer-to-students ratio".
- To categorize THLIs into two groups namely, those already implementing e-learning, however little their practices might be, and those still in the planning process only.
- To identify the problems and opportunities associated with effective online learning implementation in THLIs.

LITERATURE REVIEW

Learning is thought to be a process, which develops or changes the behavior of a learner to a degree of permanence, usually with the intervention of an educator or instructor. It relates to facts, concepts, principles, attitudes, emotions and skills that the educator/instructor intends to impart to the learner (Van den Aardweg and Van den Aardweg, 1993). Glasgow (1997) also states that learning is a result of becoming engaged in a problem one cares about. Ever since the network came into being, it has displayed its vital potential to convey information and support interaction; leading people to try to develop versatile tools and explore its full use in order to make it work most effectively and efficiently (Harasim, et al., 1995). Online resources and tools are the ICT applied to teaching and learning for the purpose of providing flexibility, scalability and adaptability on delivery of educational material guidance (i.e. technology for the instructor), facilitation of the experience of the student (i.e. technology for the learner), and support of communities of learners (i.e. collaborative learning). Effective use of online resources and tools is the practice that encompasses studies of the methods and application of educational theory to create learning contexts and environments, that take advantage of applications necessary to engage students with learning materials, illustrate complex systems or relationships, and encourage interaction with other individuals or teams (NSF, 1998). A teacher is the stakeholder of responsibility for facilitating the learning whereas a student is given choices and an allowed pace in the activity.

Computer is an essential tool without which e-learning can not be possible. Two different kinds of computer use in education have been identified (Maddux, et al., 1997). Type I applications, "which make it easier, quicker, or more efficient to teach the same things in the same ways we have always taught them", and Type II applications, "which make available new and better ways of teaching" (Harlow and LaMonte, 1998). The latter use associates with the perspective of the teacher as a reflective practitioner, the one dominating today's literature on teachers' professional development. The teacher must be "attentive to patterns of phenomena, skilled at describing what he or she observes, inclined to put forward bold and sometimes radically simplified models of experience, and ingenious

in devising tests that are compatible with the constraints of an action setting" (Schön, 1983). Here, the effective use of online resources and tools for teaching and learning purposes is a matter of constant deliberative professional judgment on the part of the teacher. The computer is used as a tool, supporting the teacher in his or her practice of advanced pedagogies.

The courseware or e-learning management software is also another important part of the e-learning process because it facilitates learning activities, and makes the process of learning and learning itself, become easier. The software facilitates the online learning-teaching process in general. It can be free software i.e. acquired freely from the open sources of the worldwide web or proprietary i.e. purchased under license from a vendor. The courseware allow online interaction of students with both the content or learning material and their lecturers through access to sessions such as assignments or examinations, feedbacks to and from their lecturers, online submission of assignments, online marking of students' assignments, etc. In fact, the e-learning software does and simplifies many tasks. There are several of them including the Blackboard, the Moodle, etc.

Online learning is normally done through a reliable communication network link, having a favorable bandwidth speed. This is the network infrastructure. The reliability of the infrastructure may vary from one organization and/country to the other, and in accordance with the requirement of a particular organization/institution. However, for a reliable network link/communication, it should be high enough to allow effective computer communications beyond intranets and/or LAN localities. Still, human resources (lecturers, technicians, system administrators, etc.) are also a very important constituent part of e-leaning.

The primary reason as to why technology has failed to live up to its promise (of the 1980s) lies in the fact that it has been viewed as an answer to the wrong question. Decisions about technology purchases and uses are typically driven by the question of how to improve the effectiveness of what schools are already doing and not how to transform what schools do. Sandholtz *et al.* (1997) argues that technology is a catalyst for change in classroom processes because it provides a distinct departure, a change in context that suggests alternative ways of operating. It can drive a shift from a traditional instructional approach toward a more eclectic set of learning activities that include knowledge-building situations for students. Technologies penetrate into every aspect of human life and the sphere of education is not an exception. However, the necessary changes in education take place slowly and reluctantly; it is obvious that the current society is often beginning to be called "Information Society" because a certain transformation process has already commenced with the injection of ICT and the use of the Internet in schools and universities.

Any investment in ICT in any educational system is normally made with the main aim of meeting the expectation of policymakers as well as the public. The ultimate demand from both groups is the evidence that such investment in education technology delivers as per their expectations and therefore, proving to be worth not only to their efforts but also to the scarce resources of the country (i.e. the effectiveness of the investments in educational technology). But, such a demand might sometimes, come at an awkward time at which parents might be clamoring for more technology in schools, whereas experts involved might be in a dilemma about whether technology investment is measurably improving education or not. Normally, policy-makers see the primary benefit of ICT as preparing students to live and work in the Digital Age, where as the public sees the same investment as a means of enabling students' scores go up. In this respect therefore, there is a certain disconnection between what policy makers normally invest for ICT in education and what the public really expect from such an investment (Trotter, 1998).

Technology is deemed effective when it includes authentic and multi-disciplinary tasks

and, addresses important issues and problems in the real world. In addition, technology is effective when it is performance-based assessment; includes interactive models of instruction with heterogeneous groupings; collaborative and; allows students' exploration of knowledge, having a teacher as their facilitator.

One of the difficulties in determining the effectiveness of education technology is that there is so little consensus about its purpose. Polls in developed countries have shown that many parents and business leaders see technology mainly as a tool to prepare students for the workplace (Trotter, 1998).

Secondly, where technology has been fully integrated with the curricular, test scores widely used in assessing students' achievement are regarded as representing only a small slice of student achievement and hence not necessarily reflecting the range of benefits students get from using that technology. In this respect, if the employed technology is found not to deliver (i.e. if it does not lead to higher students' test scores); it means that such circumstances suggest a different kind of test to be employed.

Thirdly, the improvement of the school climate by involving parents, motivating students, and making schools run better is another commonly cited purpose of technology. While many educators report anecdotally that technology can have these results, they can be difficult to document in a way that determines effectiveness (Trotter, 1998).

Fourthly, since technology is increasingly recognized as a way of fostering numerous education reforms, such as making classrooms learner-centered, changing the way teachers teach, and improving assessments, educators must therefore agree on, and clarify, their goals for using technology. It is the obligation of educators, practitioners, and educational policymakers to think about what it is they are after, because only with clear goals, they can be able to foresee how much they want to spend, for what purpose and under what conditions (Trotter, 1998).

Finally, the mismatches between the kinds of changes that technology is expected to produce and the outcome measures that are used to show results pose a big challenge in the process of assessing technology. For example, researchers' failure to separate out productivity from learning issues and to distinguish between the nature of research and the pace of change in technology are the important factors behind this scenario.

Therefore, these challenges ought not to be overlooked in the whole process of planning the integration of technology with the curriculum. They are, and can be, very useful in judging the extent of delivery of the employed e-learning technology (knowledge transfer and gain to students), as well as the quality and quantity of the final produce i.e. the resulting number of knowledgeable students.

METHODOLOGY

This paper addresses the following research questions through a qualitative paradigm

Question 1: To what extent are e-learning resources and tools available in THLIs?

Question 2: Which THLIs are currently implementing online learning and which are not?

Question 3: What are the influential factors (problems, challenges and opportunities) that are associated with effective online learning practices in THLIs?

Fourteen (14) purposively sampled THLIs located in Morogoro (2) and Dar es Salaam (12) regions were surveyed and that the research was designed in such a way as to allow mainly the use of qualitative data and information. A semi-structured questionnaire was used in each of the case study institutions or universities, as an interviewing guide. The kind of questioning employed was face-to-face or focus group discussion, with focus groups sizes ranging

between 5 and 12 interviewees. The Interviewees included Lecturers, IT Technicians, Systems Administrators, System Analysts, Directors of Computer Centers/Units and other Administrative Staff (Admission Officers, Personnel officers, etc.). The study relied mostly on primary sources of information though in some cases, (e.g. at the early stage of the design of the questionnaires), secondary sources of information were used.

By looking at both the factors (obstacles and challenges) affecting online learning implementation and the opportunities associated with the practice as they are identified by past researchers, an outline of their important aspects was employed as a guide in designing the questionnaire. These aspects were included with the questionnaire so that during interview sessions, interviewees were asked to give their comments about them and finally, say whether they are true/not-true cases in their respective institution's learning environment. Therefore, the guiding questionnaire was purposely designed to extract information mainly related to students' online learning resources (hardware and software) as well as to the challenges and obstacles with regard to online learning issues in THLIs.

RESULTS AND DISCUSSION

Available Online Learning Computer Resources in THLIs

Tables 1 show the calculated computer-to-students ratios. The ratios indicate that several students are required to share a single computer in a classroom or laboratory. Taking for example the highest computed computer-to-students ratio R=0.172; this indicates that on average, at least five (1/0.172=5.8) students share a single computer in a laboratory. The worst situation is represented by the value (of the ratio) R=0.022 which indicates that at least 45 students on average, share a single computer. This ratio suggests an almost impractical situation, simply because it is too much less than one. Normally, the far the ratio is to one, the worse, and the closer the ratio is to one, the better. All ratios in the table are very much far from "1" and that no any one of them is even "closer to at least 0.5". A value of R=0.5 is a ratio which would suggest sharing of at most "3" (2 or 3) students per computer. The last column of Table 1 shows these ratios as percentages. The highest is 17.2% whereas the smallest is 2.2% and the meaning behind is that if each respective institution were to distribute its entire computers to each of their students, the top ranking institution (IMTU) would offer computers to only 17.2% of its students whereas the bottom ranking (CBE) would offer to only 2.2% of its students.

Table 1: Computer Resources for Students' Online Learning in THLIs

S/No.	University/ Institute	Number of Computers Connected to the Internet for Students' Learning Purposes (C)	Number of Students (S)	Computer-to-Students Ratio R=C/S	% Ratio P= (Rx100%)
1	CBE	65	3000	0.022	2.2
2	TIA	40	286	0.140	14.0
3	DIT	200	1300	0.154	15.4
4	HKMU	29	276	0.105	10.5
5	IFM	120	2502	0.047	4.7
6	IMTU	19	110	0.172	17.2
7	MUCHS UDSM)	140	1500	0.093	9.3
8	MU	78	2000	0.039	3.9
9	SUA	126	2500	0.080	8.0
10	IMCJ (UDSM)	9	200	0.045	4.5
11	OUT	25	Not found	-	-
12	UCLAS (UDSM)	60	1140	0.053	5.3
13	UDSM -Main Campus	532	14,580	0.036	3.6
14	ISW	0	653	-	-

It can be observed that apart from a common problem of lack of sufficient computer resources, most THLIs also lack the e-learning management software. This can be observed from the results presented in Tables 2 where individual institutions' current online learning status (online learning practices) and the available e-learning management software in THLIs are summarized. About half of the visited institutions implements online learning although at a low level. This sub-section therefore provides answers to research Questions one and two.

Table 2: Online Learning Practices and the available E-Learning Management Software in THLIs

S/N	Name of University/ Institute	Name of Courseware in Use	Implements Online Learning	Still Planning Online Learning Implementation
1	CBE	none	no	yes
2	DIA	none	no	yes
3	DIT	Moodle	yes	-
4	HKU	none	no	yes
5	IFM	-	yes	-
6	IMTU	Two (2) Software namely The University Management Software and The Teaching Management Software	yes	-
7	MUCHS (UDSM)	The Blackboard	yes	-
8	MU	none	no	yes
9	SUA	none	no	yes
10	IMCJ (UDSM)	The Blackboard	yes	-
11	OUT	none	no	yes
12	UCLAS (UDSM)	The Blackboard	yes	-
13	UDSM -Main Campus	The Blackboard	yes	-
14	ISW	none	no	yes

Factors Influencing Effective Online Learning Implementation

Truly integrating technology into teaching and learning is a slow, time-consuming process that requires substantial levels of support and encouragement for educators. This study has identified some factors that influence the effective implementation of computer technology in education (Roszell, 1995). Their discussion is based on the information provided by respondents whose profile is summarized in Table 3. Table 4 provides information about the assigned codes used in Table 3.

Table 3: Number of Respondents by Category and Institution

Institution	Number of Respondents per Code Category				Total Number of Respondents per Institution
	01	02	03	04	
CBE	7	1	-	2	10
DIA	8	1	1	2	12
DIT	5	1	1	1	8
HKMU	4	1	-	1	6
IFM	4	1	1	1	7
IMTU	3	1	1	1	6
MUCHS (UDSM)	6	3	1	2	12
MU	5	1	1	1	8
SUA	7	2	1	2	12
IMCJ (UDSM)	3	1	2	1	7
OUT	5	1	1	2	9
UCLAS (UDSM)	5	1	1	1	8
UDSM - Main Campus	7	5	2	1	15
ISW	3	1	1	1	6
Totals by Category	**72**	**21**	**14**	**19**	**126**

Table 4: Code Assignment and Mapping to Categories of Respondents

Assigned code	Category/Title of respondents
01	Lecturers
02	System Administrators/System Analysts/Network Administrators/Computer Technicians
03	Information Technology Officers/Information Systems Managers/Heads of ICT Departments/Sections
04	General Administrators (Admission Officers, Communication Officers, Planning Officers, etc.)

Seven (7) factors affecting the implementation of online learning technology in THLIs were discussed in focus groups with sizes as indicated in the last column of Table 3. The factors (in skeletal form) discussed included:

i. The time factor,
ii. Hardware and software resources,
iii. Attitudes of administrators,
iv. Pedagogy,
v. Lecturers' attitudes/perceptions to online learning,
vi. Lecturers' personal familiarity with computers, and
vii. Lecturers' Training.

During discussion/interviewing sessions, it was customary to divide the "hardware and software resources" factor (number (ii) above) into two sub-factors. These sub-factors appear below with headings that read "insufficient computers" and "lack of subject content appropriate software". Regarding the obstacles and challenges facing THLIs, five (5) guiding points were used in the discussion. These are (in skeletal form):

i. Telecom infrastructures
ii. E-learning strategy
iii. Local learning content
iv. Culture
v. Role of the instructor (lecturer) and that of a learner (student)

The discussion of these two categories of factors influencing online learning in THLIs is in the following sub-sections of this chapter.

Influential Factors to Online Learning Implementation in THLIs

With regard to responses provided by respondents during interviewing sessions, a detailed discussion on the outlined obstacles and challenges facing online learning technology in THLIs can be presented as follows:

Insufficient Time in Preparing Lessons for Online learning: This is the most frequent occurring and significant condition affecting teachers' willingness to embrace computer technology in instruction, i.e. the lack of available preparation time for teachers to develop lessons that can be learnt using computers.

Insufficient Computers: Issues surrounding computer hardware are the most serious barriers affecting implementation. Regarding hardware, THLIs are facing serious problems of having "too few computers" and sometimes printers; all respondents reported such cases.

Lack of Subject Content Appropriate Software: There is a lack of availability and access to software that is "subject content appropriate" in all the institutions. The factor is also perceived by lecturers to be a serious barrier that has a negative effect on using computers in their classrooms.

Lack of Support from Administrators: Most lecturers reported lack of support and leadership from administrators, responsible for supporting the technological professional development of lecturers by establishing flexible schedules to allow lecturers to practice what they have learned. Apart from that, administrators can encourage and facilitate team teaching and peer coaching; can facilitate (allow) lecturers visits to each other's classrooms to observe computer technology integration and can plan for regular meetings schedule among lecturers using technology in teaching, for purposes of planning and evaluating instructions.

The Art of Incorporating Computers in the Teaching Process: There is lack of sound pedagogical basis for integration of technology in education, leading to a narrow and unimaginative usage, such that in some cases, lecturers' focus in THLIs is flawed. The lecturers have tended to focus the use of computers on classes such as "computer studies" rather than in other subject areas and thus, most study is "learning about the technology" rather than "learning with the technology", i.e. marginal uses of computers.

The Attitudes of Lecturers towards Computer Technology: Most lecturers are reluctant in embracing computer technology, a phenomenon explained by a number of factors. These include such things as a sense of loss of control over the teaching situation, lack of technical support, time and effort for training in order for them to keep very current in the field, and appropriately implementing the technology in the classroom. Others believe that computers are nonessential and supplemental to the classroom traditional teaching method and that they do not have a useful educational objective.

Personal Familiarity with Computers: Majority of lecturers are unfamiliar with computers, a

situation which directly affects the manner in which e-learning is to be/is being implemented. Compounding to this problem, is the need for infrequent users to have structured opportunities to develop and practice computer skills so that they can be able to keep current, where applicable; with the technological changes in their fields.

Knowledge and Skills of Lecturers in Using Computers: Most lecturers are in most cases unprepared to use computers in their classrooms because of lack of support and educational guidance. In fact, they actually need to know how to use computers first before they can further integrate them within their curricular. Above all, they lack professional development that can provide them with materials, strategies and new understanding to meet the learning goals.

Emerging E-Learning: Obstacles and Challenges

This sub-section provides an answer to part of the research question "What are the opportunities associated with effective online learning practices in these institutions?"

E-Learning is a groundbreaking paradigm shift in the field of learning that provides high-speed access to knowledge and information anytime and anywhere. THLIs need to be smoothly connected with the educational system through emerging learning technologies. However, THLIs currently implementing online learning were found to be facing the following obstacles and/challenges.

Lack of Telecom Infrastructure: Their Internet bandwidths are too low and so, is their internet penetration. Their current installed infrastructure capacity is too low to accommodate their current as well as emerging future needs. Obtaining sufficient bandwidth is a major problem because of high international tariffs and lack of circuitry capacity in these institutions.

The Role of Leadership in Building a Durable E-Learning Strategy: The institutions are lacking clear strategies for e-learning. The strategies are needed for the way forward and that leaders in both public and private sector should be involved in the whole process of building these strategies. Without clearly defined e-learning strategies, no progress can be achieved.

The Rareness of the Local Content: There is currently no local learning content that is subject content appropriate. The learning content in most developing countries is provided mainly from European or American content providers and unfortunately, even the vehicles for producing, distributing and accessing this content are not reliable or are still few.

New Culture, Leadership and E-Learning Strategy Development: E-Learning, is not just introducing a new technology for learning, but also a new way of thinking about learning. It is totally a new culture for learning, which does not necessarily require training or instruction where, learning is through access to well-designed information and new performance-enhancing tools, through experience, and from each other. THLIs need to build and incorporate in learning, a new culture that will embrace e-learning means and leadership support for the same culture. Without support from leadership, all educational activities being undertaken in THLIs will have no base. The activities cannot be durable enough to build the momentum and critical mass that is necessary to transform the community into one that accepts e-learning as a natural part of its everyday work life. Efforts towards the use of the technology in learning can only be sustainable if many leaders are made aware of the interactions between e-learning and the working environment, and how truly difficult it is to change people's attitude about what learning events are and what they can be.

The Role of the Instructor and that of a Learner: Though both instructors and learners are important parts of the e-learning process, the quality of e-learning relies heavily on the preparation and the talent of the instructor. E-learning is just changing some roles and functions both teachers and learners play.

Whereas the role of the instructor could be coaching, observing, offering hints, reminding and/or giving feedback, that of a learner would depend more on online learning materials than on textbooks. This is an outstanding challenge that needs to be overcome by THLIs.

Online Learning Opportunities in THLIs

Opportunities associated with effective online learning implementation were discussed in the literature review as a general case only. This is because, during data collection, the study encountered a state of affairs that indicated nothing in respect of e-learning opportunities in THLIs. Online learning practices are at a take-off stage and that some of these institutions do not even practice online learning at all. They are not yet at a stage which they can be able to create or capture such opportunities. Neither has there been previously, a room for creation of such opportunities. However in short, enhancing the ICT infrastructures, developing appropriate local learning content, availability of both support services and technical support providers, and support from marketing and publicity agents can be among key online learning opportunities to be targeted by THLIs while striving towards a high level of online learning practices.

CONCLUSION AND RECOMMENDATIONS

Conclusion

There are many obstacles and challenges facing effective implementation of online learning in THLIs and that their e-learning practices are still very immature to allow opportunities to be generated from the use of their practices. In addition, very low students-to-computer ratios have been found to be the case in all THLIs, indicating that e-learning resources are still very scarce in THLIs. The majority of the institutions lack even the courseware resources i.e. the e-learning management software. This leads to a conclusion that e-learning in THLIs is just beginning and also, is at its early stage of growth (take-off stage). Its pace is also very low and that none of the THLIs can be deemed to have reached a practical level with regard to effective online learning practices. More over, it is evident that half of the visited institutions implement online learning, whereas the other half is still in the planning phase.

In addition, the opportunities inherent from online learning practices are latent and can only be created/captured subject to a given online learning level of achievement. Since THLIs' online learning practices are at a take-off stage, it is very difficult to capture these opportunities. Currently, no conducive environment exists in THLIs for e-learning opportunities to be captured. In spite of the challenges and obstacles currently facing online learning implementation, THLIs have no other option than meeting the challenges and where possible, clearing the obstacles. Tanzania will then be assured of some form of development, inherent from "effective" online learning practices in these institutions.

Recommendations

There is a need of developing clear e-learning strategies that might be helpful in the process of implementing effective online learning practices in THLIs. These strategies should be designed such that they are able to address important factors hindering the implementation process. They should act as a tool in overcoming the obstacles and challenges as identified in this paper. In addition, ICT training to lecturers and students should be done; with administrators fully supporting e-learning policies implementation in their respective institutions. In addition, the government should provide every kind of support to THLIs, whether in material or monetary form, in their effort to implement their e-learning strategies. THLIs ought to make the government aware of their current and future ICT infrastructure requirements, using accurate figures and feedbacks, where required or necessary, to win government intervention in the process.

Strategies to be built by these institutions should be able to address:

- Best approaches to e-learning including online training that provide courseware (i.e. software for e-learning), business simulations and knowledge management.
- Learning architectures to coordinate e-learning with the rest of the institution/universities' learning efforts. This should incorporate the building of synergies for positive e-learning operations, with classroom training.
- The technological capabilities required to deliver and manage e-learning effectively.
- Learning culture, and management ownership, i.e. the creation of an environment that encourages learning as a valuable activity of the desired end products, supported by senior managers who are truly engaged in the process. Without an e-learning champion, the initiative may never get off the ground.
- Reinventing the training organization, i.e. the adoption of an organizational and business model that supports rather than limiting the growth of e-learning. Best approaches to learning will require best approaches to running, professionalizing, and measuring the training/learning function.

Finally yet importantly, universities should keep track of good records of all information including their current (up-to-date and regularly updated) online resources and tools installed for students and lecturers' use, and those for administrative matters. These records can be helpful in providing reliable data to researchers in the field as well as improving the qualities of future researches.

NOMENCLATURE

CBE	College of Business Education
DIA	Dar es Salaam Institute of Accountancy
DIT	Dar es Salaam Institute of Technology
HKMU	Hubert Kairuki Memorial University
ICT	Information and Communication Technology
IFM	Institute of Finance Management
IMTU	International Medical Technology University
IJMC	Institute of Journalism and Mass Communication
ISW	Institute of Social Works
MU	Mzumbe University
MUCHS	Muhimbili University College of Health Studies
OUT	Open Univeristy of Tanzania
SUA	Sokoine Univesity of Agriculture
THLIs	Tanzania Higher Learning Institutions
UCLAS	University College of Lands and Architectural Studies
UDSM	University of Dar es Salaam

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