

**FACULTY AND STUDENTS PERCEPTIONS ABOUT E-LEARNING FOR
ENHANCING INTERACTIVE LEARNING IN HIGHER LEARNING
INSTITUTIONS IN TANZANIA**

ANTHONY MARWA

**A THESIS SUBMITTED IN FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY IN EDUCATION OF THE
OPEN UNIVERSITY OF TANZANIA**

2016

CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance by The Open University of Tanzania a thesis entitled: *Faculty and Students Perceptions about E-learning for Enhancing Interactive Learning in Higher Learning Institutions in Tanzania*, in fulfillment of the requirements for the degree of Doctor of Philosophy in Education of The Open University of Tanzania.

.....
Professor Honoratha M. K. Mushi

(Principle Supervisor)

.....
Date

.....
Professor Elinami Swai

(Supervisor)

.....
Date

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DECLARATION

I, Anthony Marwa, do hereby declare that this thesis is my own original work and that it has not been presented and will not be presented at any other University for similar or any other degree award.

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Signature

.....

Date

DEDICATION

This study is dedicated to the memory of my parents, Marwa Mwita and Agnes Mwita Werema, who always believed in me, my lovely wife Mbiliijao and children, Wilbroad, Taragwa, Sophia and Mosi, for their love, care, blessings, inspiration and moral support when conducting this study.

ACKNOWLEDGEMENT

First and foremost, I thank **GOD, THE ALMIGHTY** for his blessings and protection which enabled me to accomplish this work. Secondly, I express my sincere appreciation and gratitude to many people who have encouraged and supported me in completing this thesis. I am indebted to all of them and want to call attention to some whose contribution proved valuable.

Firstly, I would like to extend my gratitude and thanks to my supervisors, Honoratha M. K. Mushi and Elinami Swai who provided the coaching and guidance that kept me on track. Words cannot express the appreciation, and respect that I have for them. Special thanks go to higher learning students and academic faculties at The Open University of Tanzania, the University of Dar es Salaam, Muhimbili University of Health and Allied Sciences and Mzumbe University for taking their valuable time to fill in the questionnaires and respond to in-depth interview questions. Special thanks to The Open University of Tanzania for offering me the opportunity to learn, without affecting my social and economic responsibilities.

I would also like to express my genuine gratitude to my research assistants, Simon Anthony and Naomi Morris for their acceptance in taking that difficult role of collecting some of the data which proved to be a crucial step in my study. Nevertheless I take full responsibility for any errors, weaknesses or shortcomings contained.

ABSTRACT

This study investigated academic faculty and students' perceptions about e-learning for enhancing interactive learning in universities in Tanzania. The study employed quantitative and qualitative methods to generate rich, contextual data from the four higher learning institutions namely The Open University of Tanzania (OUT), the University of Dar es Salaam (UDSM), Muhimbili University of Health and Allied Sciences (MUHAS) and Mzumbe University (MU). The study involved 225 students, 12 lecturers and four ICT administrators from the four higher learning institutions obtained through purpose sampling. Questionnaires, interviews, documentary analysis, observations of e-learning facilities, and content analysis of posts through social media (Jamii forums) were used in data collection. Data were analysed using the SPSS package. Findings show that 62.0% of faculty and 73.89% of students respondents perceived e-learning to have relative advantage over traditional forms of interactive learning, strategies employed to effect wide adoption of e-learning among students and academic faculty were; skill training, ICT policy development, erection of e-learning infrastructure and use of the Moodle as official e-learning. Students engaging in interactive learning through e-learning were those; exposed to high engaging tools, owning smart phones, skilled in using e-learning technologies, while distance, cost, social roles and slow internet speed were considered to be influencing factors to adoption of e-learning for interactive learning purposes. The study recommends that; further research be conducted in the area, learning theory and or research be an integral part of need assessment, teachers selected to teach through e-learning should have required skills or be trained in e-teaching, design and frequent review of ICT policy should be implemented.

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LIST OF ABBREVIATIONS AND ACRONYMS

ARU	Arusha University
CoICT	College of Information and Communication Technology
DICT	Directorate of Information and Communication Technology
E-learning	Electronic Learning
HLIs	Higher Learning Institutions
IAE	Institute of Adult Education
ICT	Information and Communications Technology
IET	Institute of Education Technology
IEMT	Institute of Educational and Management Technologies
IFM	Institute of Finance Management
JF	Jamii Forum
KIU	Kampala International University
LAN	Local Area Network
LMS	Learning Management System
Mbps	Megabits per second
MOODLE	Modular Objective Oriented Development Learning Environment
MUHAS	Muhimbili University of Health and Allied Sciences
MU	Mzumbe University
ODL	Open and Distance Learning
OER	Open Educational Resources
OSNs	Online Social Networks
OUT	The Open University of Tanzania
PC	Personal Computer
SARIS	Students Academic Register System

SAUT	St. Augustine University of Tanzania
SPSS	Statistical Package for Social Sciences
SUA	Sokoine University of Agriculture
TCU	Tanzania Commission for Universities
UDSM	University of Dar es salaam
VLE	Virtual Learning Environment
Wi-Fi	Wireless Fidelity

CHAPTER ONE

1.0 INTRODUCTION

1.1 General Introduction

The value and importance of interactive learning in teaching and learning is globally acknowledged and well established in literature (Yusuf and Balogun, 2011; Garrison, 2000; Mushi, 2006). Interactive learning is considered for its capacity to facilitate knowledge generation among students by engaging them in critical thinking, exploring personal attitudes and values, expressing ideas, and reflecting on learning. Interaction also fosters teacher presence by giving and receiving feedback and fostering a feeling of belongingness to a learning community among students (Abawajy, 2012). Given such attributes, most educators consider interaction as an important ingredient for effective teaching and learning (Yusuf and Balogun, 2011) and one of the indicators of quality that has emerged in the practice and research in University-level education (Anderson, 2003).

The concept of interaction in classroom teaching and learning has various meanings. One is the condition in which students are engaged in an activity assigned after a lecture or a discussion. Sometimes an instructor and students can collaboratively interact to brainstorm or translate important ideas or information. Brainstorming and translating are activities that call for interaction involving intense cognitive processes facilitating knowledge construction. This implies that interaction is not a void in a lecture; rather a lecture can be used as a starting point to engage the students in an interactive learning activity beyond the classroom online/cyber class. Interactive learning has its roots in Lev Vygotskian psychology (Vygotsky, 1978). According to Vygotsky (1978), interactive learning can materialize through the use of tools and signs. Tools in the case of learning may be anything to help the learner access information and construct knowledge (e.g.

books, television or computers/laptops/smart phones). Signs on the other hand have functions that have potentials to modify and improve human cognition (e.g., language, models or metaphors) (Lantolf and Poehner, 2009). Such functions are internal and psychological and can be used to organize thinking and making sense. They are often used to improve the psychological world (Vygotsky, 1978). Computer-mediated tools are currently regarded sources of interactive learning (Adair-Hauck, Willingham-McLain and Earnest 2000), because they have capacity to combine audio, video, graphics and text thus providing interactive learning opportunities of higher levels than previous technologies.

Various efforts aimed at promoting interactions in teaching learning have been documented in both conventional and distance education institutions with most of the studies showing that effective interactive learning are reached through promoting interactive activities in teaching and learning (Mtebe and Raisamo, 2014). While best achievements in promoting interactive learning in higher learning institutions have often been associated with face to face conventional teaching approaches, difficulties in promoting such form of teaching and learning have often been associated with distance education course delivery (Msuya and Maro, 2002). Some studies suggest that students and instructors in conventional education institutions as well as in distance education institutions are facing similar challenges in promoting interactive learning (Lwoga, 2014).

For distance education institutions, the major obstacle in promoting interactive learning has been the geographical distances between students and their institutions as well as teachers, which makes face to face teaching and learning difficult to achieve (Msuya and Maro, 2002). In order to compensate for this shortcoming distance education institutions use technologies as the media of course delivery. For instance before the advent of the internet, The Open University of Tanzania (OUT) has largely used correspondence forms

of teaching and learning, that is print course materials and postal services as the main media of course delivery (Nihuka, 2010).

Use of printed course materials provide limited interactive activities such as elaborate formal exercises, self corrected as well as instructor evaluated assignments supplemented by other forms of teaching learning activities such as face to face sessions (Mkuchu, 2000). High engaging interactive activities such as discussions could not be sufficiently supported by the print media, because when print media is used feedback takes long time to be accomplished unless print media is accompanied with internet provisions (Lema, 2006).

Furthermore a study by Babyegeya (2006) revealed that students completed assignments sent to instructors for marking were duly marked and returned to students but most lacked detailed comments. Among reasons for lack of detailed comments in student's assignments is high workload on part of academic staff. It is reported that by 2015 high enrollment of students at OUT had resulted into student academic staff ratio of 1:103 while the recommended student-staff ratio is 1:35 as prescribed by TCU for a traditional ODL delivery mode (OUT, 2015).

Faculty members as a result, were required to mark more than 2,000 scripts, such immense workload deprived them chances to provide detailed explanations or comments on areas for improvement and or encouragement. This condition deprived students opportunities to interact with their instructors through comments on assignments for the purpose of finding out how well they are doing in their studies (Babyegeya, 2006). In addition, even attempts to promote discussions through formation of face to face study groups, could not work well as expected especially for students in remote areas. Most of

the students in remote locations are scattered, making it difficult for them to form and make use of such study groups (Lema, 2006). This has resulted into poor interactive learning, which in turn became part of the reasons of high dropout cases and poor performance by students studying through distance education mode (Msuya and Maro, 2002).

According to Knebel (2001), successful completion rates of distance education degree programmes in developing countries are often as low as 10 to 34% compared to the rates of 55 to 66% in conventional education institutions. A similar trend of low successful completion rates, whereby only 234 (31%) of 763 of the first batch of OUT students registered in 1994 and in four graduations that followed managed to complete successfully. This is not surprising, since even the number of active students in distance education institutions does not correspond with the number of enrolled students. At the Open University of Tanzania, for instance, active students were estimated to be only 60% of those registered during 2013/2014 academic year (OUT, 2014).

In conventional higher education institutions in Tanzania reasons which are considered to limit interactive learning has been 'large class size' which is regarded to impose restrictions on the use of certain active teaching and learning strategies such as class discussions.

Large classes are a result of increased enrollment of students which are not in line with expansion of facilities and teachers (Lwoga, 2012). For instance, while the number of undergraduate students enrolled at the University of Dar es salaam (UDSM) in 2003/04 was 2410 the enrolment rose to 5775 in 2007/08 almost twice as much (UDMS, 2009). While student enrollment has been increasing the infrastructure has basically remained

the same (Mtebe and Raphael, 2013), resulting into an average of lecturer student ratio of 1:20 compared to recommended ratio of 1:10 for natural sciences and 1:15 for social sciences for students learning through a conventional mode (Sarua, 2009). Since some of the academic staff engages in fulltime administrative work, the real number of academic staff directly involved in teaching is even lower.

At Muhimbili University of Health and Allied Sciences (MUHAS) high enrollment of students had resulted into making one lecture at the Biochemistry class to teach about 350 first year students as well as post graduate students (Olipa *et al.*, 2012). While at the University of Dar es salaam, Hoven (2000) argues that, due to large number of students in one class. Some students were compelled to take lecture notes while standing outside the lecture halls.

The challenges facing conventional higher learning institutions have mainly been on how to strike a balance between enrollment of large number of students and intensified demand for the delivery of better education (Mtebe and Raphael, 2013). Large number of students in classes might impose restrictions on the use of interactive learning that fosters cognitive, social and teacher presence. Such restrictions cause teachers to rely on simplistic teacher-centred lecture method, considered by most contemporary scholars to be poor methods of enhancing interaction and retaining students' attention in teaching and learning (Olipa *et al.*, 2012).

Olipa *et al.* (2012) points out that in order to overcome the problem brought about by enrollment of large number of students which is not in line with available facilities and intensified demand for the delivery of better education some of the higher learning institutions have experimented with some innovative interactive teaching techniques. In

2009 MUHAS introduced competency based medical education system. The programme was aimed at enhancing interactive teaching in large classes that incorporates technology for teaching and assessment. The strategy comprised of instructor-facilitated small group activities within large group settings, peer-led tutorials to provide supplemental teaching and peer-assisted instruction using computer to enable access to online biochemistry learning resources.

It was considered that students would benefit from individual instruction in organized small group tutorials. However, neither faculty nor tutorial assistants were available. To tackle this problem, some of the students were trained to help teach their peers. While peer led tutorials were aimed at enhancing interactive teaching by focusing on preparing health professionals to lead a workforce composed largely of health workers with fewer years of education than themselves. Furthermore, in 2011 faculty and students were trained in Web 2.0 tools and sharing methods, evidence based practice, online search strategies and online reference management (Lwoga and Nagunwa, 2012).

MUHAS is not the only higher learning institution which has been attracted to employ e-learning on board. Given the advantages of enhanced interactive learning that e-learning provides, especially in a situation where high number of students and shortage of staff challenge higher learning institutions in providing quality education, e-learning has attracted the attention of most higher learning institutions as a solution (Mushi, 2006b; Nihuka, 2010). The use of multimedia technologies to enhance interactive learning is fast spreading in education institutions, because technologies make it possible to deliver clearer and more engaging learning (Mnyanyi *et al.*, 2010). This information from the literature formed part of the efforts by the researcher of this study to investigate out the

effectiveness of such programmes in enhancing interactive learning in higher learning institutions in Tanzania.

Development of Information Communication Technologies (ICT) and the growth of its usage in teaching and learning purposes promise to overcome the mentioned challenges (Mushi, 2006b; Mnyanyi *et al.*, 2010). ICT have acquired features that enable multimedia operations, that is, a combination of media operating at a time for education delivery purposes; such technologies include among others the computer and mobile technology with internet connectivity (Sife, Lwoga and Sanga, 2007).

Mushi (2006) notes that the application of e-learning for the purpose of enhancing interactive learning includes a wide range of a continuum of integrated educational technologies. At one end are applications of technologies such as print materials which have limitations in enhancing interactive learning. On the other end of the continuum are applications of digital technologies which provide virtual learning environments (VLES) with capacity for high levels of interactive learning.

This continuum of e-learning also depicts how technology could be applied in teaching learning, e-learning could be used to supplement other forms of teaching and learning such as the print based or face to face learning strategies. This could be done through blended or hybrid formats comprising of a mix of face to face and online instruction at initial stages to fully online learning environments delivered to all students at mature stages. This is achieved when appropriate online infrastructure and adequate facilities have been installed and initiated into effective application on online learning.

At the time of this study ICT have acquired features that enable multimedia operations, that is a combination of media operating at a time for education delivery purposes; such technologies include among others the computer and mobile technology with internet connectivity (Sife, Lwoga and Sanga, 2007).

The multimedia operations can exploit three-dimensional visual potentials in some way, typically by means of graphic representations, animations and videos productions. Visual e-learning includes many applications and processes: from Web broadcasts and self-paced computer based training to virtual classrooms (Mnyanyi, Bakari and Mbwette, 2010). This provides e-learning with the potential to accommodate interactive activities that enhance learner interaction to higher levels (Anders, 2003). Such activities include threaded discussions, participation in video conferencing, students listening to invited guest speakers and chatting (Garrison, 2000).

Thurmond and Wambach (2004) observe that such high level of interactions stimulate active learning whereby students have the freedom to share, discuss and contribute views and ideas, with their instructors and fellow students as well as creating opportunities for quick feedback. Such development in turn triggers the diversification of postgraduate courses, masters degrees, and doctoral studies through improved interactions and resulting into quality teaching, improved student retention and completion rates of registered students (Lwoga and Nagunwa 2012).

Scholars differ in defining the term interaction. According to Wagner (1994) interaction is an interplay and exchange in which individuals and groups influence each other. Wargner (1994) goes on to distinguish between interaction and interactivity by arguing that interaction focuses on people's behaviours, that is the mutual action between participants,

while interactivity focuses on characteristics of the technology systems in allowing interactions between participants. Other scholars such as Arbaugh and Benbunan-Fich (2006) define interaction as a process in which shared events take place between learners, instructors, and learning environments to help learners achieve intended learning goals.

This study adopted the definition suggested by Mushi (2006b) who sees interaction as the learner's engagement with the course content, with other learners, with the instructor and with the technological medium used in the delivery of courses. In this regard the term enhanced interactive learning refers to teaching learning activities that lead to more strengthened learner engagement with the course content, with other learners and with the instructor.

The term e-learning has been defined differently by scholars; Mason and Rennie (2006) for instance provide a technology driven definition by which they define e-learning as distance education through remote resources. Kochang and Harman (2005) provide an education delivery system oriented definition. They define e-learning as the delivery of education (all activities relevant to instructing, teaching, and learning) through various electronic media. Others like Bermejo (2005) provide a communication oriented definition by defining the term as an education system that uses computerized communication systems as the environment for communication, the exchange of information and interaction between students and instructors.

Some scholars provide educational paradigm oriented definitions (Alonso, 2005; Mnyanyi *et al.*, 2010). Alonso (2005) for instance defines the term e-learning as the use of new multimedia technologies and the internet to improve the quality of learning by facilitating access to resources, services, remote exchange and collaboration. This study

adopts an educational oriented definition suggested by Mnyanyi *et al.* (2010) who defines e-learning as a learning situation whereby methods and techniques are enhanced by electronic devices, leading to interactive learning.

There are three ways through which e-learning could be used to enhance interactive learning in higher learning institutions (Abawajy, 2012). The simplest form of enhancing interactive learning is the application of the traditional face to face instruction or printed text course materials with a few online resources or communication (Mtebe and Raphael, 2013). This form of teaching and learning mainly focuses on the learner-to-learner interaction for the students to support one another.

Students engage in e-learning interactive activities out of their own interests. Students have the freedom to choose to take part in e-learning interactive activities using e-chat provisions or social media platforms. When they meet through such forum they clarify their own understanding of key concepts, and further develop their communication skills by answering each other's questions (Osunade, 2003).

Rather than taking the role of a disseminator of knowledge, the instructors respond to the student queries so that they tend to be supportive to students' learning needs. The instructor intervenes only when s/he needs to keep the discussion on track or to motivate students to keep the discussion going. Instructor intervention is also necessary to guide, moderate, scaffold and support the learners as they grow from prior knowledge and understanding towards construction of new learning (Mtebe and Raphael, 2013).

Since participation in teaching and learning activities is voluntary, students may choose not to engage in taking part in e-learning active learning activities, such as discussion

forums. Reasons for not doing so may include lack of time management, passivity and limited interest in the content. A small vocal group may naturally emerge as discussion leaders and consistently contribute to discussion topics on online discussion forums (Abawajy, 2012). In this case a small group may be moderately active, while the remaining students participate less frequently.

One way to alleviate this situation is for the instructors to encourage discussion by responding to posts in a timely manner to show that student comments are read while making sure that the comments do not inhibit further student responses (Osunade, 2003). In addition, unlike in face-to-face discussion where learners can have responses to their queries impromptu, the learners may have to wait for responses to their queries that they wish to be clarified urgently (Mtebe and Raphael, 2013). The feedback or response may not come in time; this may lead to students' frustration and subsequently discouraging participation (Abajawy, 2012).

The second way to alleviate the situation is through the delivery of online teaching and learning with options for face to face instruction (Osunade, 2003). Interactive activities are designed to enhance the learning experiences of students by providing students with opportunity to work in groups collaboratively on assessable tasks such as term projects (Osunade, 2003). Each group may have a student facilitator who would be in charge of certain forms of interactive activities such as group discussions. When discussion groups are relatively small (6-8 people), high-quality sharing of notes and views are more common (Abawajy, 2012).

The other way provides for fully online teaching and learning with no face to face component (Abawajy, 2012). This form of e-learning is highly radical in focus (Osunade,

2003). This is because it emphasizes e-learning as the main form of teaching and learning with learners relying solely on online communication methods to interact with their lectures as well as their classmates (Abawajy, 2012). Such interactions can take place either at the same time “synchronously” and the exchange of information is done in real time such as video conferencing or at delayed time “asynchronously”, interaction that occurs at different times, not in real time such as e-mail (Osunade, 2003). In ‘wholly online’ delivery mode, all teaching occurs online and it requires students to be actively involved with and take more responsibility for their own learning (Mtebe and Raphael, 2013).

The loss of face-to-face contact possibility through online teaching and learning makes the relationship between the instructor and the learner get changed (Abawajy, 2012). Students and their instructors need to find new ways to express emotion, or passion for the subject matter, when communicating ideas to the learners; this may include use of greetings, self introductions and social icons to express emotions (Osunade, 2003).

The instructor makes major decisions on the interactive activities to be performed by learners. Such activities could be discussion topics through which learner to learner and learner to instructor interactions are enhanced (Abawajy, 2012). The instructor could post threaded discussion topics and each topic will have a specific deadline and students must contribute to the discussion before the deadline expires (Lwoga, 2012).

The threaded discussions represent class participation, which usually is evaluated based upon the quality and quantity of each student’s postings (Lwoga, 2012). The forum requires explicit and clear articulation of guidelines in order to promote participation and quality postings for online discussions. The model requires weighting for participation.

Such evaluation could focus on several aspects such as: depth, appropriateness, correctness, completeness, and usefulness (Abawajy, 2012).

The shortcomings of this method as observed by Abawajy (2012) are that; it does not support discussions that are too long to maintain interest or focus of students. Another possible problem is that students may feel like "everything has already been said" by the time it is their turn to post. This could possibly be handled by ensuring that when students enter the forum, they cannot see any other posts until they make a new post of their own. This way everyone is forced to post an original thought, even if it has already been generated in the discussion. This study attempt to identify e-learning interactive learning format adopted and used by each of the four higher learning institutions covered by this study.



Figure 1.1 : Differing interactive teaching and learning methods. Adapted from Anderson (2003)

There is existence of a number of multimedia tools used on the web to promote interactive learning. These include among others a combination of e-texts, images and audio programmes through asynchronous and synchronous communication formats. Discussion boards and voice chatting are two of the interactive learning formats (Mushi, 2006a; Nihuka, 2010).

Some of the reviewed studies show that many lecturers at higher learning institutions do not use such interactive teaching techniques (Mgendi, 2010). Some lecturers resort to place their traditional course material on web sites, in the form of transcripts or simple power point presentations (Nihuka, 2010). Others simply ignore application of e-learning for teaching and learning purposes.

In this regard it is not enough to make e-learning platforms available to students and teachers hoping that by itself would translate to wide adoption and application of the technology for teaching and learning purposes. Mgendi (2010) learnt this the hard way, when almost single handed he decided to introduce the Moodle e-learning platform at the Ardhi Institute (now Ardhi University in Tanzania) hoping that its demonstrated superior capabilities in enhancing communication is all that is required to encourage students and academic staff to apply it for teaching and learning purposes. However, only two faculty members at the institution used the system in the earnest way, despite availability of computers and accompanied software as well as the presence of academic staff who had already been trained in the use of an almost similar teaching learning platform (the blackboard) (Mgendi, 2010).

In exploring the reasons behind reluctance to use e-learning for interactive learning purposes by some of the teachers and students and continuation of using traditional forms

of teaching when using web based teaching and learning tools, Hall (2002) observes that the adoption of media in some learning institutions is led, not by pedagogical rationale but rather, by technology, and or personal rationale. Lears (2000) calls this techno-utopia, where the use of technology in the classroom teaching is led by self-serving and self-promotion, rather than serving the people that they intend to teach.

The observation that adoption of media in some of the learning institutions is led by technological rationale finds support from Lindsay (2004) who notes that, some of the lecturers who regard traditional methods of teaching learning in which the lecturers' main function is to pump knowledge into learners heads tend to resist use of e-learning technologies for teaching and learning purposes. Lindsay (2004) goes on to argue that even the few who opt to adopt the technology for teaching and learning purposes tend to do so to please their students.

In explaining the reasons for such actions, Lindsay (2004) argues that, most contemporary students in higher learning institutions have been brought up in digital age and they expect and demand their teachers to use the technology for teaching learning purposes. This appears to be a challenging situation on part of lecturers, so in order to meet such challenges as well as appear modern before their students and peers, lecturers have no option but to fulfill their students' expectations. Even then, lecturers are cautious and careful to select only those technologies which meet their students' modest goal without affecting their teaching learning methods which they cherish and with which they are comfortable (Lindsay, 2004). Lindsay (2004) argues that such decisions often results into poor e-learning solutions which are far removed from the way in which students frequently use them to meet their interactive learning needs. Among poor solutions, includes selection of technologies that do not provide for high engaging interactive

teaching and learning opportunities. The view finds support from Waddington and Davidson (2010) who argue that the Moodle teaching and learning platform, which is popular among HLIs, is among poor e-learning course management systems which provide limited interactive teaching and learning capabilities.

Arguing on the same line as Lindsay (2004), Waddington and Davidson (2010) are of the view that the main reason why the Moodle has attracted the attention of some of the scholars, leading to its adoption by some of the higher learning education institutions is that, it mainly accommodates teaching and learning methods they most prefer, that is the traditional teaching and learning methods. Waddington and Davidson (2010) go further and claim that the Moodle has the ability to reproduce the worst elements of traditional education. This aspect was investigated by this study.

This experience suggests existence of an intricate relationship between technology, pedagogy and personal interest/commitment to change and adapt new trends (Lears, 2000). Lagging behind innovations is a situation which needs to be adequately explored to trigger education institutions in making decisions to use new technologies for the purpose of promoting quality teaching and learning (Nihuka, 2010).

This need was further strengthened by the observation that all four HLIs involved in this study had adopted the Moodle e-learning platform (Lwoga, 2012). The platform condemned by Waddington and Davidson (2010) as a less effective tool for enhancing interactive teaching and learning. This study attempted to investigate this aspect by examining interactive capabilities of e-learning technologies that were made available to academic faculty and students for purposes of enhancing interactive learning by higher learning institutions.

From the importance of interactive learning, many higher learning institutions in Tanzania have transformed their teaching by adopting technologies that provide two way communications (Lwoga, 2014). At the time of this study most higher learning institutions including Mzumbe University, the Institute of Finance Management (IFM), The Open University of Tanzania (OUT), Muhimbili University of Health and Allied Sciences (MUHAS), Kampala International University (KIU), University of Dar es Salaam (UDSM) and Arusha University (ARU) were at different stages of implementing e-learning in different models (Lwoga, 2014).

In order to accomplish their ambitions most higher learning institutions have adapted Moodle learning management system as the official course management platform as well as provision of virtual interactions between instructors and students (Lwoga, 2012). According to Lwoga and Nagunwa (2012), Moodle was selected because of its capability to manage courses, free license and has a largest user community comparing to any content management system. Major improvements to higher learning institutions' ICT infrastructure have been done over the years. According to Lwoga (2012) by 2012 the UDSM had the highest Internet bandwidth of 155 Mbps followed by The Open University of Tanzania (OUT) with 10 Mbps, MUHAS with 8 Mbps, while MU had the lowest bandwidth of 512 Kbps.

Furthermore, most higher learning institutions have conducted training for students and instructors on how to use Moodle system, and had offered training to instructors on e-learning course development training. All learning materials are uploaded in the system for students to access; furthermore, students and instructors are encouraged to make use of course delivery using system tools like discussion forums and chat forums (Lwoga and Nagunwa, 2012). Higher learning institutions have opened own face book pages as part of

the strategy to encourage students and instructors to interact through social media (Mtebe and Raphael, 2013; Nihuka, 2010; Lwoga and Nagunwa, 2012).

In order for students to access internet, internet access centers equipped with computers connected to internet have been set up in most of the higher learning institutions in Tanzania. OUT for instance has set up internet services in all its regional centres for its students scattered across the country and beyond. The University of Dar es salaam (UDSM) which has study centres in four regions (Mwanza, Mbeya, Arusha and Dar es Salaam) has set up such facilities in each of its centers. The aim was to provide access to computers with internet connections for students who do not have access in their homes or workplaces (Mtebe and Raphael, 2013).

While acknowledging the development in access to e-learning interactive learning among students and instructors in higher learning institutions, there still is little agreement regarding which forms of teaching and learning promotes interactive activities. Some scholars feel that the traditional learning mode is better (Datuk and Ali, 2005). The disagreement on which form of teaching and learning best promotes interactive activities has become an interesting area of research in the sub-Saharan Africa and similar continents. Studies have been conducted mainly in developed world for the aims of establishing the quality of teaching and learning in higher learning institutions (Datuk and Ali, 2005; Villamejor-Mendoza, 2013).

Studies in a country like Tanzania are highly needed due to the importance discussed above and the challenges facing higher learning institutions in the country. This study explored conceptions from lecturers and students' in higher learning institutions in Tanzania on understanding their perceptions of interactive learning through e-learning. In

conducting this study, the researcher was interested in a reciprocal quality development, whereby the number of students was rising while students' achievements were challenged (Swai and Bitegeko, 2012). This reciprocal relationship was felt to create a gap between higher learning institutions quality and the realities existing at the institutions.

Without adequate information regarding faculty perceptions towards enhancement of interactive learning through e-learning which in turn guides the design of interaction activities, it was considered difficult for higher learning institutions to come out with strategies to buy in the commitment of all e-learning stakeholders towards the design and implementation of e-learning programmes that best combine interactive learning activities to meet interactive learning needs of students (Roblyer and Knezek, 2003).

Such information lacks because most of the studies in higher learning institutions have tended to focus on technology, begging with questioning how technology could be used to meet desired educational purposes instead of focusing on which technology led methods are most suitable for achieving desired educational purposes (Roblyer and Knezek, 2003).

Such beliefs are largely based on the assumption that new technologies are always good. But that rather begs the question; instead the focus should be on technology led methods that are most suitable for achieving desired educational purposes (Roblyer and Knezek, 2003).

1.2 Statement of the Problem

Students and faculty members in HLIs need to make use of e-learning for interactive learning purposes and overcome numerous barriers they had faced when attempting to

enhance learner interaction through traditional teaching and learning approaches. However very few academic faculty and students in HLIs, were using e-learning for interactive learning purposes.

If academic faculties are to make effective use of e-learning for the purpose of transforming their classrooms, it requires examination of the value-laden nature of e-learning (Hodas, 1993; Howard, 2004), and more specifically, how the values embedded within technology shape teaching and learning and reinforce or disrupt social, cultural and historical factors in Tanzania higher learning institutions (Hodas, 1993; Howard, 2004).

The reviewed literature indicates existence of highly limited research that examines the value which lecturers and students put in interactive learning when engaged in teaching and learning through e-learning. Very few studies focused on technology mediated interactive learning (Nihuka, 2010; Mahai, 2014). Nihuka's (2010) study which used structured interviews does not adequately answer why people hold negative attitude towards interactive learning through e-learning. Structured interviews provide limited scope for research respondents to answer questions in any detail or depth and for this reason the instrument cannot be used to explore people's understanding of their views or feelings about the issues being investigated (Yin, 2003). As a result information to explain why some of the lecturers and students have yet to adopt e-learning for interactive learning purpose is missing.

The few studies, with a focus on e-learning enhanced interactive learning, have tended to compare forms of interactive learning, that promote learner-learner interaction compared to those which promote learner-content, learner-instructor interaction and learner – technology interactions (Sharp and Huett, 2005; Liu, 2008). Most of the researches have

been conducted in developed countries, where the learning environment and students learning needs might be different to a situation in a developing country such as Tanzania.

As a result information on faculty and students perceptions about interactive learning through e-learning for interactive learning purposes was noted to be missing, particularly whether academic faculty and students regard e-learning to have relative advantage over traditional forms of teaching and learning in enhancing interactive learning and quality of learning, and whether they consider strategies employed by their institutions for wide adoption and use of e-learning for interactive learning purposes are effective. Other missing information include type of students engaging in interactive learning through e-learning, factors influencing interactivity in e-learning and potentials that encourage adoption of e-learning for interactive learning purposes (Hodas, 1993; Howard, 2004).

This study sought to explore the challenges of enhancing interactive learning, by investigating students' and teachers' conceptions or perceptions when using such technologies for interactive teaching and learning purposes. Four higher learning institutions in Tanzania were involved in the study.

The premise of this thesis is that, understanding students and instructors' perceptions towards enhanced interactive learning through e-learning will help higher learning institutions to develop strategies that might be incorporated in their programmes to buy in the commitment of all stakeholders, including instructors and students, in developing and implementing e-learning programmes that have high potential to enhance interactive learning. The positive effect of adequate interaction is the retaining of students and improvement of the quality of education (Mushi, 2006b).

1.3 The main Objective of the Study

The main objective of the study was to investigate HLIs students and teachers' perceptions about the use of e-learning for enhancing interactive learning and how such perceptions relate to the strategies employed to enhance interactive learning through e-learning in four higher learning institutions in Tanzania.

1.3.1 Specific Objectives

The following were specific objectives of this study:

1. To investigate faculty and students perceived relative advantage of e-learning over traditional forms of teaching and learning in promoting interactive learning and the quality of learning in higher learning institutions in Tanzania.
2. To examine strategies employed by higher learning institutions, instructors and or students to enhance interactive learning through e-learning in Tanzania.
3. To determine the type of students in higher learning institutions in Tanzania who engage in e-learning for interactive learning purposes.
4. To identify factors influencing interactivity in e-learning for interactive learning in Tanzanian higher learning institutions.
5. To identify potentials that encourages adoption of e-learning for interactive learning in Tanzanian higher learning institutions.

1.3.2 Research Questions

In order to respond to the specific objectives related to the study on teachers and student's perceptions about e-learning for enhancing interactive learning and how such perceptions relate to strategies employed to enhance interactive learning, the following questions were formulated:

1. What are the faculty and students' perceptions on relative advantages of e-learning in enhancing interactive learning and quality of learning in higher learning institutions in Tanzania?
2. What strategies are employed by Tanzanian HLIs in order to enhance interactive learning through e-learning?
3. What type of students in higher learning institutions in Tanzania engage in interactive learning through e-learning?
4. What factors influence e-learning interactivity in higher learning institutions in Tanzania?
5. What potentials encourage academic faculty and students into adoption of e-learning for interactive learning in Tanzanian HLIs?

1.4 Significance of the Study

The study gained importance against the backdrop of the perceptions of students and teachers in higher learning institutions in Tanzania about e-learning for enhancing interactive learning. Though some of the high learning institutions have begun to experiment with e-learning, actual application by academic faculty and students for interactive learning purposes remained very limited.

Therefore this study contributes at advancing knowledge regarding teachers and students' perceptions about e-learning for enhancing interactive learning in HLIs and how such perceptions relate to strategies adopted to enhance interactive learning. Thus findings may be used to enrich future studies in the area.

Results of this study could be used to advise HLIs that are unsure of perceptions faculty and students hold towards interactive learning through learning and think those not

adopting e-learning technology for interactive learning purposes are conservative. Knowledge of reasons behind so regarded as conservative attitude or perceptions towards interactive learning through e-learning is critical. Without such knowledge selecting an effective prescription for overcoming a given instructional problem becomes difficult.

The study will also contribute at demonstrating to policy makers the required inputs for effective planning of e-learning which includes types and forms of strategic plans and policy that explicitly guides implementation of e-learning for interactive learning purposes.

This study could have provided much information on this area if the study could have covered all higher learning institutions and if it had used different sample of students such as the physical challenged students in order to reveal differences in perceptions and application of e-learning technologies for enhancing interactive learning in higher learning institutions among different groups. Further studies could look into these aspects.

1.5 Limitations of the Study

This thesis focused on determining teachers and students perceptions about interactive learning through e-learning in four HLIs in Tanzania. The study therefore did not consider all students and faculty in other universities in Tanzania. Secondly information gathered was collected from 225 students 12 faculty members and four ICT administrators from the four higher learning institutions covered by the study, other stakeholders such as administrators and the ministry of education were left out.

This study used questionnaires as the main data gathering instrument, the major disadvantage of using this tool is the possibility of respondents to provide false responses, in order to minimize such possibilities, the researcher also used in-depth interviews, semi

structured questionnaires, documentary reviews and observations of e-learning facilities however, other type of instruments such as focus group discussions were left out which could had contributed at enriching much further findings of the study.

Another limitation of the study was related to the sampling procedure. It was planned that faculties in each of the four higher learning institutions be considered as clusters, then a set of clusters be selected for the study (four faculties in each of the higher learning institutions), lastly a fixed number of students was planned to be selected randomly from each of the selected clusters to make a total of 64 students from each higher learning institutions (Onwuegbuzie and Collins, 2007). In this study, only volunteering students participated in the study, so the sample of the study was not random. It is possible that only those who were positively inclined about e-learning participated in the study.

Data analysis techniques were limited to data categorization across all students, in-depth analysis across gender, age and location was not done, this might had limited the quality of findings that emerged. Findings of the study may therefore not be generalized to other contexts in higher learning institutions and the world.

1.6 Conceptual Framework

This study explicitly focused on the learners and their teachers' perception of interactive learning through e-learning; the emphasis was on prediction of determinants of academic faculty and students perceptions towards interactive learning through e-learning. It was noted from reviewed literature that the E-learning Acceptance Model (ELAM) as put forward by Umrani-Khan and Iyer (2009) inform this study.

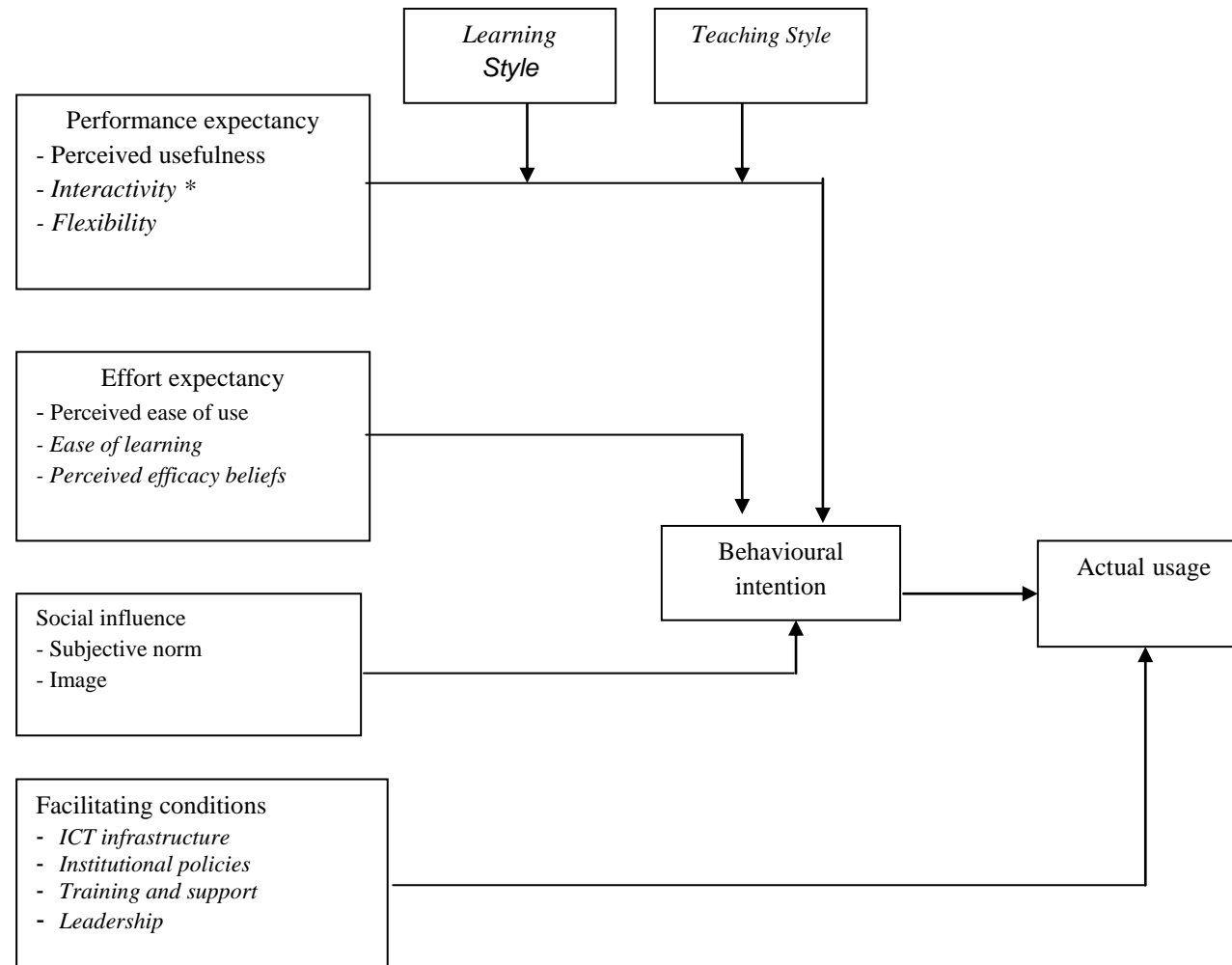


Figure 1.2 : E-Learning Acceptance Model (Umrani-Khan and Iyer, 2009)

The E-learning Acceptance (ELAM) model regards the preferred learning style of students and teachers teaching style affect relationship between performance expectancy and behavioural intention to use e-learning. The behavioural intention, performance expectancy, social influence and facilitating conditions are considered to determine actual usage of technology (Umrani-Khan and Iyer, 2009).

The major difference between this study and ELAM model is that while ELAM focuses on understanding individual actual use of new technology, this study focused on understanding academic faculty and students perceptions about enhancement of interactive learning through e-learning.

Despite the difference some of the ELAM constructs were considered relevant to this study. The resulting modified model was used to predict academic faculty and students perceptions towards use of e-learning for enhancing interactive learning in HLIs.

Key constructs considered in the model are Relative advantages of e-learning over other forms of teaching and learning for enhancing interactive learning, Strategies for wide adoption of e-learning among students and academic faculty, Type of students engaged in e-learning for interactive learning purposes, Potential for adoption of e-learning for interactive learning purposes and Factors influencing interactivity when learning through e-learning.

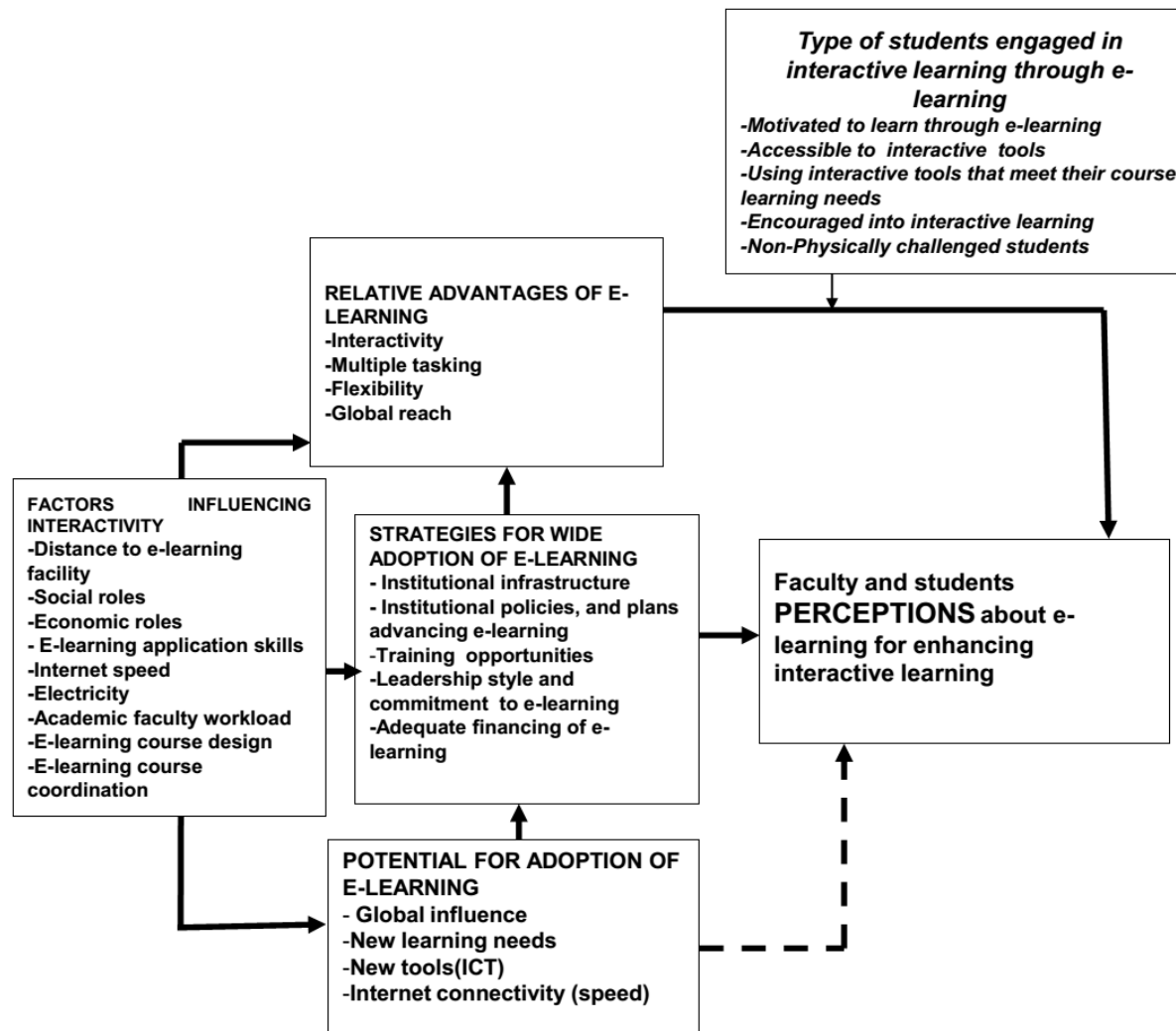


Figure 1.3 : Conceptual framework for the study. Adapted from Umrani-Khan and Iyer (2009)

Relative Advantage of E-Learning

This study considered relative advantage of e-learning over other form of teaching and learning as the strongest predictor of positive perception by students and academic faculty towards the use of e-learning for interactive learning purposes. Determinants of relative advantage of e-learning were interactivity, multiple tasking, global reach and flexibility. This means HLIs faculty and students would perceive e-learning to have potential for interactive learning if they consider the technology in question provides for interactivity, multiple tasking, flexibility and global reach in teaching and learning.

While traditional forms of teaching and learning mainly provide limited interactivity mainly in the form of same time (synchronous) interactive teaching and learning, e-learning provides for higher forms of interactivity in the form of both timely (synchronous) and delayed (asynchronous) interactions. Students, who prefer same time interactions, could interact through video conferencing and through online charts and those who prefer delayed interactions, can use e-mails and discussion forums and other tools that allows for delayed interactions.

Flexibility in Learning: Flexibility in learning which allows students to study at their own convenience in terms of time and place was considered as another teaching and learning situation made possible by e-learning. Students who are shy to take part in face to face interactions, those who need time to form and structure their opinions before presenting their views as well as those with other social and economic roles could learn through interactive learning tools such as threaded discussions and delayed discussion. Traditional forms of teaching and learning cannot adequately accommodate such flexibility, in this regard it was felt that students whose interactive learning needs were limited by their

characteristics and large class size would find e-learning to have relative advantages over traditional forms of teaching and learning in enhancing interactive learning.

Multiple tasking : While conventional forms of interactive teaching and learning, force students to leave aside their social and economic responsibilities while studying, e-learning allows for multiple tasking in that students' can be engaged in interactive learning while continuing with their employment and their social responsibilities (Mushi, 2006). It was thus conceived that students who find it difficult to leave aside their social and economic responsibilities to pursue fulltime studies would perceive e-learning to have relative advantages over conventional forms of teaching and learning.

Global Reach: Technological developments have made it possible for students to interact with their lectures and fellow students while being geographically apart to the extent of achieving a global reach. Students can even register for courses offered by an institution in another continent and still be able to communicate with other students in different parts of the globe; this aspect of e-learning was felt to have relative advantages over traditional forms of teaching and learning.

In this model it was considered that relative advantages of e-learning over traditional forms of teaching and learning mediates students engaged in interactive teaching and learning indicated by a single pointed arrow.

Type of Students Engaged in Interactive Learning Through E-Learning

The second construct considered in this model were the types of students engaging in interactive learning through e-learning. In this model, the type of students expected to be engaged in interactive forms of teaching and learning through e-learning were those

exposed to tools that provide high interactive learning, those encouraged into using interactive learning by their teachers, highly motivated students and those accessible to e-learning facilities. In this model students engaged in interactive learning was directly considered to positively influence academic faculty and students perceptions about e-learning as indicated by a single pointed arrow (Roblyer and Knezek, 2003).

Strategies for Wide Adoption of E-Learning

Though relative advantage of e-learning over other forms teaching and learning was considered very useful, the assumption that academic faculty and students would perceive interactive learning through e-learning positively merely out of perceived relative advantage over interactions enabled through traditional forms of teaching and learning was considered to be misleading (Umrani-Khan and Iyer, 2009). It was regarded that academic faculty and students can perceive e-learning not effective for interactive teaching and learning for reasons related to strategies used to effect wide adoption of e-learning (Umrani-Khan and Iyer, 2009).

For this case the fourth element considered in the model was Strategies for wide adoption and use of e-learning for interactive teaching and learning purposes which included: Institutional e-learning infrastructures, institutional e-learning policies and plans, training opportunities, leadership style and commitment and adequate financing (Ely, 1999; Schaper and Pervan, 2004). In due regard, HLIs and faculty would develop positive perceptions towards use of a particular technology for interactive teaching and learning purposes if they believe that HLIs in question has in place befitting strategies that meet their interactive teaching and learning needs (Ely, 1999; Fee, 2009).

This study regarded e-learning policy as essential document without which implementation of interactive teaching and learning through e-learning would be difficulty. It was considered that all HLIs which were using e-learning would have in place ICT policy which guides implementation of e-learning. Planning was also considered as essential ingredient of an effective strategy that is aimed at effecting wide adoption of e-learning, the most effective planning was considered to involve key stake holders in designing e-learning package.

In this study training opportunities was considered to be part of effective strategy that leads to wide adoption of e-learning among students and academic faulty. The view which is supported by reviewed literature which considers that, in order for faculty members and students to take part in teaching and learning through e-learning they need to be provided with training opportunities in technology use as well as in e-teaching (Olipa *et al.*, (2012).

Another component considered as an essential part of effective strategy for wide adoption of e-earning was leadership commitment to e-learning it was considered that effective measures that leads to wide spread adoption of e-learning cannot adequately be applied without the support from HLIs leadership which should be clearly seen taking active involvement in the implementation process (Ely, 2009).

Reliable source of funds to drive implementation of e-learning was another aspect considered, unreliable sources of funds was regarded to work against effective implementation of e-learning (Ely, 2009). It was conceived in this model that strategies for wide adoption construct would directly influence faculty and students perceptions about interactive teaching and learning through e-learning indicated by a single pointed arrow.

Potential for Adoption of E-Learning

In this model the fifth element was potential for adoption of e-learning for interactive learning purposes which was felt to be a powerful influence that directly impact perceptions of academic faculty and students towards interactive learning through e-learning even when strategies for wide adoption of e-learning are missing, but such motivation quickly fades when strategies for wide adoption of interactive learning continue to be wanting. The following constructs were considered to constitute potential for adoption of e-learning; global influence, new learning needs, new tools and internet connectivity. In this model a dotted line with single arrow indicates the one way temporal influence to faculty and students perceptions about interactive learning through e-learning. Perceived potential was also perceived to impact strategies for enhancing interactive learning by a single pointed arrow.

Technological development has made communication easier; currently people can communicate at higher rate than a decade ago. Such a situation has made it possible for people to be close (Mushi, 2009). This observation was felt to be important for this study, because people can fast be influenced by what is going on the other part of the globe easily than in the past, in that case if other most parts of the globe are considering e-learning as essential such a situation would influence decision making in those countries which are yet to consider e-learning as essential. Reviewed literature indicates that most countries consider interactive learning through e-learning as very important, it was thus expected that HLIs covered by this study would also consider interactive learning through e-learning as important.

The fast pace of technological development the world is witnessing was felt to create new teaching learning demands (Mushi, 2006). The need for designing of new courses or

revising existing ones has been brought about by requirements for learning new skills imposed by the fast technological development which in turn also created a need for designing new methods of teaching and learning.

Among the emerging new engaging teaching and learning methods is competency based teaching and learning. Since competency based teaching and learning requires more collaboration and skill building, it was felt that effective implementation of the requirement would be hindered by the rising number of students which is not in line with existing facilities when traditional forms of teaching and learning are employed. In this regard it was felt that new learning needs pose as potential for adoption of e-learning as e-learning was felt to be more suited for such requirements than traditional forms of teaching and learning. E-learning is perceived to break the geographical and large class limitations to collaborative teaching and learning.

Among other new developments perceived to be potential for adoption of e-learning was development of new tools and technology such as mobile technologies. These tools can be operated even in areas with no electricity for that case overcoming the geographical distance and large class size; in this case it was considered that these tools have potential to make students located in remote location positively perceive interactive learning through e-learning useful.

Technological changes have ushered in new development even in communication networks. Among new developments is the laying of the of submarine optic fiber network which is considered to offer fast internet connection (more internet bandwidth) and at lower costs than satellite services (Mtebe and Raphael, 2013). Since Tanzania is among

countries that have been connected to this new network, it was expected the availability of such services works as potential for adoption of e-learning in HLIs.

Factors Influencing Interactivity

It was considered that some higher learning students might not effectively use e-learning technologies for interactive learning purposes even when they are willing to do so. It was felt that obstacles in enhancing interactive learning through e-learning in higher learning institutions might exist. The influencing factors considered were geographical distance to e-learning facilities, economic and social roles, e-learning application skills, internet speed, electricity, and e-learning coordination inclination. In this study it was felt that students living in remote locations would find it difficult to utilize e-learning facilities which are located in city center or campus.

It was also felt that student with other pressing social and economic roles would be among those who find use e-learning facilities difficult as such negatively perceive use of e-learning for interactive learning purposes. Since use of e-learning requires one to have skills to use particular technology, user application skills were considered by this study to be among important requirements for students. Students lacking such skills were considered to find it difficult to interact through e-learning without support, in this regard lack of technology user skills was considered to effect e-learning interactivity.

Electricity supply was felt to be among influencing factors to interactivity. Since computers with internet connections were technologies most used in HLIs, the use of which requires readily available electricity. It was felt that lack or erratic of electricity would negatively impact e-learning interactivity (Mtebe and Raphael, 2013).

Effective coordination of e-learning is considered by most scholars to be contributing to effective implementation of interactive learning through e-learning. In this study it was considered that e-learning coordination as guided by pedagogical requirements of the course would positively influence interactivity as opposed to technologist inclined coordination.

These constructs were felt to influence all the other four constructs that is: relative advantage of e-learning, strategies for wide adoption of e-learning and potential for adoption of e-learning and type of students who would be engaging in interactive teaching and learning through e-learning indicated by one directional pointing arrow.

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1.7 Definition of Key Terms and Concepts

E-Learning: The term e-learning is defined as a learning situation whereby methods and techniques are enhanced by electronic devices, such as computers, smart phones and iPods leading to interactive learning (Mnyanyi *et al.*, 2010).

Faculty Member: The term faculty is used broadly to refer to teaching staff of higher education institution (Rubina, 2010). In this regard the term as used in this study refers to a staff employed by university whose main responsibility is to teach students also referred to as lecturer or professor depending on qualifications. In this study the terms; academic faculty, faculty member, lecturer and teacher are used interchangeably.

University: The term university in this study refers to autonomous, self-governing institutions offering courses at degree level, each being responsible for the standards and quality of its academic programmes and awards. These institutions dedicate themselves to the professional and intellectual development of mankind and society in general. In order to achieve this goal they provide training that is aimed at producing highly qualified

specialists for various branches of knowledge and applied scientific research (Tanzania Commission for Universities, 2014).

Interaction: In this study the term learner interaction is defined as the learner's engagement with the course content, other learners, the faculty, and the technological medium used in the course (Mushi, 2006b). In this regard the interactions that transpires between students themselves and between students and faculty is intended to help reinforce student understanding of the course material.

Interactivity: The term interactivity refers to characteristics of the technology systems in allowing interactions between participants (Wagner, 2003). Defined this way the term interactivity is looked at as an integral part of the educational content, offered by a set of methods and tools that force the learner to escape from the state of being passive recipients of information by providing them with interaction activities, which they are required to follow or fulfill as part of the requirement for the course. These activities, which include discussions, experimentation and conducting projects, quizzes or assignments and others, when followed or fulfilled help to deepen the understanding of the subject at hand (Roblyer and Knezek, 2003).

1.8 Chapter Summary

This chapter provided a background to the study which was aimed at investigating faculty and students perceptions about e-learning for enhancing interactive learning; it identified research objectives and research questions. The chapter also provided significance of the study and limitations to which the study results could be generalised. A conceptual framework that identified the factors contributing to faculty and students perception towards enhanced interactive learning through e-learning in HLIs was proposed. The next chapter provides a review of theories related to the study and empirical literature.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature related to this study. The chapter begins with a description of e-learning interaction theories related to the subject being studied, followed by the research findings on faculty and students perceptions about e-learning for enhancing interactive learning and how such perceptions are related to strategies adopted to enhance interactive learning. The research outcomes germane to five major themes; faculty and students perceived relative advantage of e-learning over traditional forms of teaching and learning in enhancing interactive learning, strategies adopted by HLIs to enhance interactive learning through e-learning, the type of students engaged in interactive learning through e-learning, factors influencing interactivity in e-learning for interactive learning and potentials that encourage adoption of e-learning for interactive learning in HLIs in Tanzania.

2.2 E-learning Interaction Theories

As noted in reviewed literature, e-learning interaction theory is not a well-defined, unified, and comprehensive theory. Rather e-learning theory is a combination of theories, each focusing on different elements of the learner interaction promotion process, which combine to create a meta-theory of technology mediated interaction promotion theory (Driscoll, 2000). Reviewed studies identify four levels of such theories; epistemology, descriptive, learning and instructional design theories (Driscoll, 2000).

The review looked into two levels of these theories, that is the learning theories and instructional design theories, which were considered to be closely related to this study.

2.2.1 Behaviorism Learning Theory and E-learning

Behaviorism is a theory of learning based upon the idea that all behaviours are acquired through conditioning. In this regard any person could potentially be trained to perform any task within the limits of his or her physical capabilities; all it takes is the right conditioning. Major thinkers being Ivan Pavlov, B. F. Skinner, Edward Thorndike, John B. Watson, Clark Hull (Ertmer and Newby, 2013). Basically, the behaviorist theory of stimulus-response learning, considers all learning to be the establishment of habits as a result of reinforcement and reward (Garrison, 2000).

An instructional design for e-learning based on behaviorist approach starts from the basic assumption of behaviorism that knowledge is objective, meaning that there is only one correct answer to give or a specific approach to follow. The theory further posts that students' educational problems must be assessed and instructional objectives should be written to treat the problem. After identifying the objectives, the teacher should seek out the most logical sequence of instructional materials presented in small steps to treat the problem. If the students respond to the problem, then they must be immediately reinforced (Garrison, 2000).

This theory places the teacher at the center of authority whose main role is to provide the right conditioning, which is transmitting knowledge into learners' heads (Ertmer and Newby, 2013). In practical terms it means interactive teaching and learning that support teacher-student interactions are most important (Garrison, 2000).

In higher learning institutions this form of teaching learning appears in the form of the lecture, whereby faculty delivers instructions while students attentively take notes with very little interaction happening between them.

Which means there are three basic assumptions about the behavioral learning process: behaviour rather than internal thought processes should be the focus, environment shapes behaviour, and the principle of reinforcement is central to explain the learning process. Among educational practice that results when the behavioral theory is applied to e-learning is referred to as computer-assisted instruction (Lowe, 2004). Though this theory was dominant during the middle of the 20th century, it still remains an influential force in education (David, 2009). It was thus expected that some instructors in higher learning institutions in Tanzania might be among those who believe that, interactive learning through e-learning can best be achieved through transmissive forms of teaching learning. This study looked into this aspect.

2.2.2 Cognitive Learning Theory and E-learning

Cognitive theory largely rejects behaviorism on the basis that behaviorism reduces complex human behaviour to simple cause and effect relationship, as demonstrated by change in observed behavior. While behaviorist scholars consider learning to be caused by external stimuli. Cognitive scholars regard learning to be caused by internal stimuli and for the reason regard the learner as an information processor whose reasoning, abstract thinking, decision making skills are essential for learning to take place (Ertmer and Newby, 2013). In cognitive Learning, the individual learns by watching, reading or experiencing some stimuli (Ertmer and Newby, 2013). In higher learning institutions this form of teaching learning appears in the form of quizzes and projects provided to students as part of the requirements for their studies.

Learning thus is the interactions between what students know, the new information they encounter, and the activities they engage in as they learn. Students construct their own understanding through experience, interactions with content and others, and reflection

(Ertmer and Newby, 2013). Which means, interactive learning that provides opportunities for students to develop their cognitive skills are most essential than any other forms of interaction. This study investigated this aspect further by asking students if they consider cognitive learning as most important among skills they require to learn through interactive learning techniques.

2.2.3 Constructivist Learning Theory and E-learning

Constructivist scholars define learning as active construction of new knowledge based on a learner's prior experience. The constructivists thus equates learning with creating meanings from experience with inputs from the world since they post that knowledge is a social product as it is first constructed in a social context and is then appropriated by individuals (David, 2009). The key idea is that students actively construct their own knowledge: the mind of the student mediates input from the outside world to determine what the student will learn. Learning is active mental work, and not passive reception of teaching.

The process of sharing individual perspectives is referred to as collaborative elaboration which results in learners constructing understanding together that wouldn't be possible alone (David, 2009). In this regard, interactive learning that ensures high level of participation; that is learner-content, learner-learner and learner –instructor interactions leads to increased learning. Which means in order to achieve high quality teaching learning, faculty are required to design and apply interactive learning that fosters teacher presence, social presence as well as cognitive presence. This study attempted to investigate this matter in order to establish whether faculty applies such principles as part of efforts to enhance interactive learning through e-learning in Tanzanian HLIs.

2.2.4 Connectivism Learning Theory for Digitally Connected Learning

As shown in literature reviewed the three learning theories; behaviorism, cognitive and constructivism have been useful in course design that enhances interactive learning. However, the rapid shrinking life of knowledge has challenged their effectiveness, when applied for teaching learning purposes. Just fourteen years back prior to this study it was noted that the amount of knowledge was doubling after every 10 years (Aslanian, 2001).

This change makes informal learning a significant part of our life; in this case individuals are required to continuously learn and re learn throughout their lifetime in order to keep abreast of the changing world. Such changes require higher learning institutions to make changes to the way they deliver education, since even the definition of the term learning as defined by cognitive and behaviorist scholars, as a lasting changed state (emotional, mental, physiological (i.e. skills) brought about as a result of experiences and interactions with content or other people no longer remains relevant given the changes (Ertmer and Newby, 2013).

In addition digital technologies have changed the way we used to store and retrieve knowledge. Apart from the brain the other storage of information is the computer and other digital technologies (Siemens, 2005). As Downes (2005) notes, the existing learning theories can no longer be used or modified to meet such new teaching learning needs, as many of the cognitive operations previously performed by learners (information storage and retrieval) can now be performed by technology, it also implies that experience is no longer the best teacher of knowledge.

Connectivism theory as suggested by Siemens (2005) is considered to fit such requirements. The theory considers knowledge to be distributed across a network of connections and therefore that learning consists of the ability to retrieve and make meanings of knowledge extracted (Siemens, 2005). In that learners are part of a community that are considered communication nodes.

These nodes, like a local area network, connect to larger nodes, like a wide area network, which connects to larger nodes, like the Internet. The core skill is the ability to see connections between information resources and to maintain that connection to facilitate continual learning. Due to rapid growth of knowledge constant update of and shift of knowledge is required, which can be contained outside of the learner, such as in data base or other specialized information source. For the learner to be connected to this outside knowledge is more important than his or her existing state of knowing. Thus connectivism provides insight into learning skills and tasks needed for learners to flourish in a digital age (Siemens, 2005).

In short learning is a process that occurs within nebulous environments of shifting core elements, not entirely under the control of the individual. Learning (defined as actionable knowledge) can reside outside of ourselves (within an organization or a database), is focused on connecting specialized information sets, and the connections that enable us to learn more are more important than what we currently know (Siemens, 2005).

Though the theory is useful as a tool for a learning process for instruction or curriculum its major shortcoming is that, it fails to address the issue of how to enable the learner to learn at instructional level since its main focus is directed to the examination of what is learned and why at curriculum level. It should be observed that in order to get connected a

certain amount of prior knowledge is required to be able to understand any information presented. If this core knowledge is limited access to internet information will be beyond the user's ability; to identify useful information understand it and make decision based on knowledge extracted.

This stresses the place and need for specific instructor connection and teaching or mentoring to take place for learners to internalize concepts and apply them to their real world circumstances (Driscoll, 2000). Students need basic knowledge as well as information processing skills to be in a position use e-learning for interactive learning purposes. This need is stressed by the observation that, not all information contained on the web is relevant and true. Anybody can put anything on the web which means both useful and non useful information exists on the web (Aslanian, 2001).

The user thus is required to have the ability to extract useful information and make decisions on the basis of extracted and filtered information. This requires users to possess basic knowledge on the subject matter as well as information processing skills. Such core knowledge cannot be found through connectivism but rather through specific instructor connection (Driscoll, 2000). Connectivism ignores this instructor role, stressing information extraction and information processing skills without teacher support.

In addition life experience shows that while having current data source in handy at all times (external knowledge) is important for one to extract and use it to meet his or her needs. In certain circumstance knowledge and experience still has place. For instance clients may not feel at ease when they see experts, to whom they had sought for help, frequently consulting their iPods or computers when offering expert opinion or advice on certain areas of their field. In this regard core knowledge is still important, such

knowledge include simple literacy skills as well as information processing skills without which searching and retrieve required information would be difficulty. However in order for such prior knowledge to be obtained by learners it requires some form of teacher presence, which is beyond the scope of connectivism.

2.2.5 Effective Application of E-learning Interaction Theories

As shown in previous sections, not all teaching and learning problems base themselves on one theory; some would require prescriptive solutions while others would require principles that encourage learner control. Which shows that though interactivity is important it does not necessarily mean that the more interactive the course, the more effective it will be, this requires teachers to use the right amount of interactivity that suits the teaching learning need. Figure 2.1 illustrates teaching and learning situations where application of certain learning theories learning can effectively be applied.

For example in situations where learners have little transferable prior knowledge about a skill to be learnt, such as learning a new concept and principles, the best instructional method would mainly lean towards behavioral teaching and cognitive methods that promote learner- instructor interactions (Garrison, 2000).

But if students have transferable prior knowledge and the learning outcomes focused on learning new concepts and principles which are primarily problem solving and applications of multiple principles. This would require teaching learning approaches that provide for teaching principles and processes (how) in this case requiring the application of cognitive teaching methods in so doing promoting learner-instructor as well as learner-content interactions (Garrison, 2000).

In situations where students have more advanced knowledge of the topic to be learnt and the learning outcome expected is primarily problem solving, then constructivist course design principles that provide for learner-learner, learner-instructor, learner-content and learner – technology interactions would be more suitable (Roblyer and Knezek, 2003).

Connectivism could be applied in situation where learning skills and tasks are required for users to get connected to rich web based knowledge. There is thus a need for providing the right mixture when preparing course material for students.

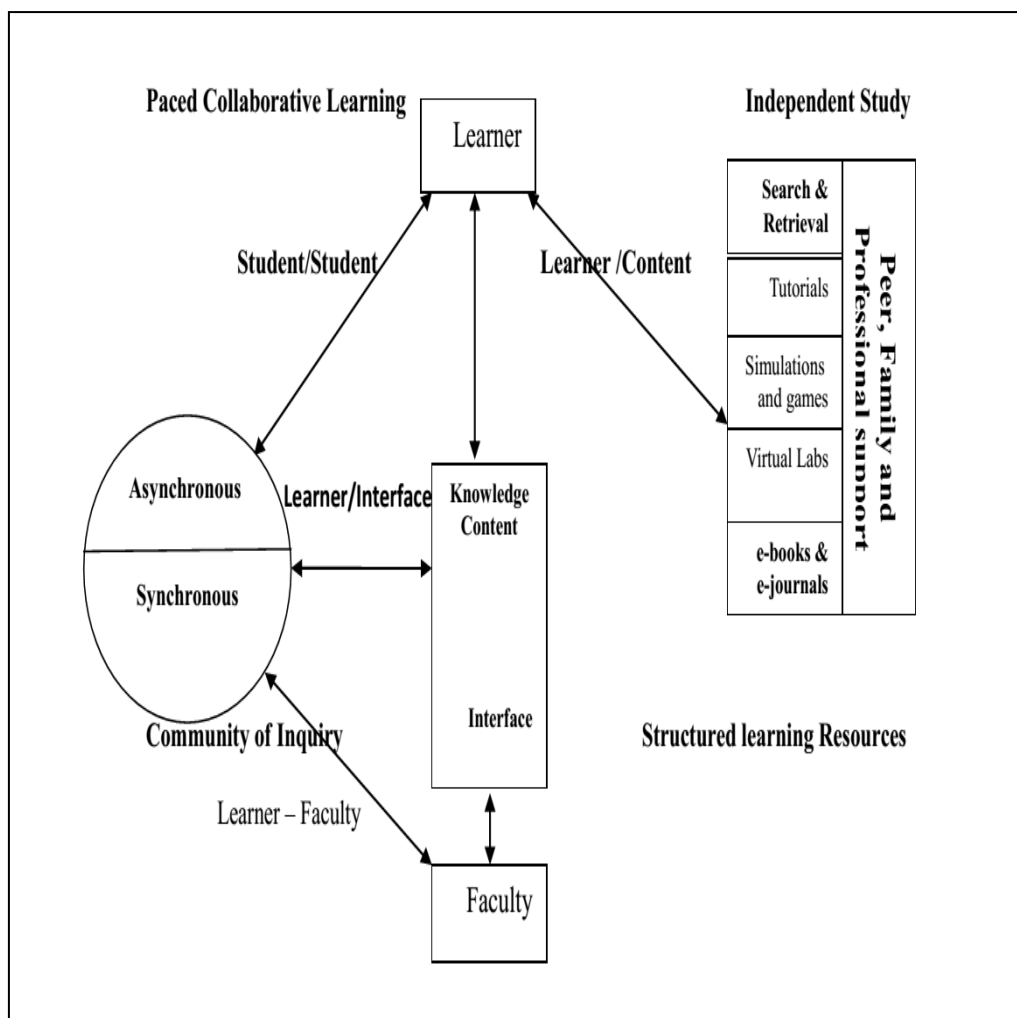


Figure 2.1 : Issues to consider when designing e-learning course for interactive learning purposes. Adapted from Anderson (2003).

As illustrated in Figure 2.1 learners can interact directly with content that they find in multiple formats, and especially on the Web, however may choose to have their learning sequenced, directed, and credentialed through the assistance of a teacher. This interaction can take place within a community of inquiry (left side of Figure 2.1) using a variety of net-based synchronous and asynchronous (video, audio, computer conferencing, chats, or virtual world) interaction.

These environments are particularly rich and encourage the development of collaborative learning, and the development of personal relationships amongst participants as components of the learning process. The following sections examine empirical studies that have investigated application of these theories to enhance interactive learning through e-learning.

2.3 Empirical Studies

Reviewed literature indicates that interactive learning is among the seven indicators of quality that has emerged in higher learning institution. Interaction is regarded to foster teacher presence, social presence and cognitive presence which when put together lead to quality teaching and learning (Anderson, 2003).

Early research on interactive learning in higher learning institutions, focused on understanding its different forms and application of technology for the purposes of enhancing the differing forms of learner interaction (Osunade, 2003). Most of the studies conducted being comparative ones aiming to show the effectiveness of application of a particular media in enhancing interactive learning as compared to another (Turner and Crews, 2005).

Studies conducted tended to suggest that application of technology in teaching and learning produce the same desired effects as traditional forms of teaching and in some cases traditional methods outperformed technology based methods (Russell, 1997). However such a narrow research focus, research design and interpretation of results cannot adequately explain what was taking place in groups investigated as far as interactive learning enhancement is concerned, for instance they tended to view students as homogenous rather than individuals with unique characteristics (Mansour, El-Said and Bennet, 2010).

More recently, research has focused on social, technological, economic and pedagogical issues which affect efforts to enhance interactive learning. This has marked a shift from seeking answers to questions like, which type of technology that best enhances interactive learning to seeking answers to questions like which conditions determines effective integration and implementation of technology for enhancing interactive learning to targeted population (Lwoga, 2014; Mushi 2006; Mnyanyi *et al.*, 2010).

This review looks into these studies, it focuses on six major themes which are related to this study: Perceived role of technology in enhancing interactive learning, relative advantage of e-learning in enhancing interactive learning, strategies to enhance interactive learning, type of students engaged in interactive learning, factors influencing interactivity through e-learning, opportunities that encourage adoption of e-learning for interactive learning purposes.

The ERIC search for relevant e-learning studies revealed 1880 related studies, 760 articles from ERIC were discarded because they were not directly focused on e-learning interactive learning, some of the articles were opinion papers, literature reviews while

others were non-empirical descriptions of e-learning programme implementations. The search was finally reduced to forty studies among which twenty four studies had a focus related to this study. These were selected and have been presented in respective sections. Each perspective was analyzed and discussed separately. The review attempted to show the assumptions it holds against strategies/ efforts to enhance interactive learning. The review ends with identification of remaining unresolved issues, which frames the research purposes and questions.

2.3.1 Perceived Role of Technology in Enhancing Interactive Learning

As Lewis observes (2001) people tend to view things in different ways and with their own perspective. Reviewed literature reveal differing perceptions regarding the role of technology in teaching learning and how such technologies could be applied to enhance interactive learning (Roblyer and Knezek, 2003).

While some scholars regard new technology as a primary force for change that has potential to improve the existing traditional methods of teaching learning leading to enhanced interactive learning and improved teaching learning (Brecht, 2012). Other scholars tend to take a pedagogical perspective by arguing that new technologies bring with them different teaching learning approaches without which interactive learning will not be adequately realised (Nihuka, 2010; McArthur and Bostedo-Conway, 2012; Mansour, El-Said and Bennet, 2010).

2.3.1.1 Technology as a Driving Force for Quality Teaching and Learning

Scholars who tend to perceive technology as a force that will over time, eliminate most or all of the problems that face humanity, tend to base their views on the underlying assumption that the best way to bring about change from unwanted conditions, problems

or product, is to create a system or product that is significantly superior to existing systems (Rogers, 1995). Some of the studies leaning towards such perceptions paint a picture of the world filled with computer technologies that offer never before experienced possibilities of manipulating large amounts of information with little effort. Among possibilities is a search for information on the web and facilitation of equivalent face to face teacher student's interactions as in conventional teaching and learning sessions (Tillberg-Webb and Strobel, 2011).

Following this conceptualization if we are to enhance interactive learning through e-learning we need to replace what is termed as inferior technologies which offer low levels of interactive learning with superior technologies that provide high levels of interactive learning. Based on such conceptualization e-learning technologies should be adopted by all education institutions since such adoption and application will automatically lead to improved teaching and learning, when applied to improve the existing teaching learning methods (Vrasidas, 2000).

Brecht (2012) is among scholars who perceive new technology as an instrument that could be used to improve the existing traditional methods of teaching and learning. Brecht (2012) perception was enriched by findings of the study which compared benefits of using videos to supplement traditional methods of teaching learning. In this study Brecht (2012) adopted a comparison approach which compared study benefit outcomes between students who studied through class lectures only with students who studied through lectures supplemented with videos. The study involved students studying financial accounting as a requirement for all business school students. The video lectures prepared by the course instructor had the same content as the classroom lectures, but were delivered at a slower, more step-by-step pace.

Students who used the videos to supplement lectures could replay segments and stop the lecture as they study to understand the content. Findings were based on analysis of survey data and grade distributions. They included comparisons of with-videos and no-videos sample data. The most significant findings are that video lectures used by students for tutorial help, improve initial learning, reduce dropout rates, and improve course grades. Although the study was for a classroom course with the videos provided online, the researcher concludes that video lectures will have similar or greater use for students taking their course entirely through e-learning/online.

Though the study is silent on interactive learning contained in the courses, given the financial accounting course study requirements which include memorization of formulas; it could be that the video lectures had some effect of promoting interactive learning that fosters cognitive learning. If that is the case it would mean that social presence and teacher presence for financial accounting course is less important since even without these forms of interactive learning still the enhanced cognitive learning had led to improved learning, reduced dropout rates, and improved course grades. But it could also mean that if interactive teaching methods that fosters all forms of interactions would have been employed a much more benefitting outcome would have resulted.

2.3.1.2 Technology as a False Promise to Interactive Learning

The perception that technologies are primary force for change that could revolutionize teaching learning came under strong attack by some of the scholars (Oppenheimer, 2003). Oppenheimer (2003) for instance in his book titled *The Flickering Mind: The False Promise of Technology in the Classroom and How Learning Can Be Saved*, he argues that, efforts to placing computers in the classroom have been almost entirely wasteful.

Oppenheimer (2003) goes on to argue that new technologies are expensive ventures not worth to be used in classrooms as they will never revolutionize teaching learning. He regards them as merely distractions as part of a long line of technological advances that are incompatible with proven traditions of learning. He narrates how other technologies before the advent of computers and internet had created similar false hopes only to be proven wrong.

Most of the scholars inclined to such perceptions tend to regard traditional forms of teaching learning as most useful for teaching learning purposes (Jwaifell and Gasaymeh, 2013; Oppenheimer, 2003). The view which is supported by some of the studies, which show that technology based methods provide same resulting effects and in some cases traditional methods outperform technology based methods (Oppenheimer, 2003). The following section looks into studies that follow this perspective.

Oppenheimer spent over five years researching technology's place in education by traveling across the United States of America observing, interviewing and assessing technology-based schools and other reform-based schools. Since Oppenheimer (2003) is not of the field of education (Journalist), he reinforces his arguments by citing many of his conversations with the field's leading experts. He uses these stories, to portray what he believes occurs when technology is dumped into schools and what happens when schools avoid it. Though in agreement that teaching learning methods employed in schools at the time were at fault, he is against use of technology as an approach to enhancing interactive teaching and learning.

According to Oppenheimer (2003) those who avoid it fare better than those who adopt it and come to strong and persuasive conclusions: that the essentials of learning have been

gradually forgotten and that they matter much more than the novelties of technology. Though, Oppenheimer (2003) recognizes that there are times when computers are used effectively in the classroom. However, to him these circumstances are far and few between, to justify the costs required to introduce and maintain the technology in the first place.

On much similar lines Kibona and Mgaya (2015) conducted a study which looked into the smartphones' effects on academic performance of higher learning students. The study surveyed 100 of Ruaha University students having smart phones using a structured questionnaire and documentary reviews. Findings of this study share much similar observations with Oppenheimer (2003) study.

It was found out that majority of the respondents having smartphone fall in the age category of 20 – 25 years, who can be grouped as teenagers. The study also noted that this group mostly uses smartphones mainly for social networking on the social sites like Facebook, Twitter and Instagram rather than using their phones for academic purpose. Furthermore the study noted that 48% of students covered by the study spend more time on their smartphones (5-7 hours) per day for social interaction purposes.

When asked about distractions they get when they are in class and someone text him/her, the majority students commented that, they are distracted by the messages they receive and are tempted to respond to the messages received. The researcher regards such behaviour as evidence of being addicted to smartphone. However, this observation by itself is not enough to jump to such conclusion. It might be that students are distracted by the boring one way communication lecture, prompting them to engage themselves in other activities, in the past days the other activity was day dreaming but in this digital age

it could be the smart phone. The other reason could be that higher learning institutions have not made serious efforts to customized smartphones for teaching learning purposes.

Though Kibona and Mgaya (2015) acknowledge that the smartphone can compete with computers when applied for teaching learning purposes in higher learning institutions, they make no further attempt to even mention whether the HLI in question had made effort to customize smart phones as a teaching learning tool. This also suggest that the researchers' hold a negative perception and attitude towards this new technology. It might be that some of the students and instructors in higher learning institutions in Tanzania hold similar views, if that is the case this would hamper efforts to introduce web based learning, including use of smart phones as tools for enhanced interactive learning through e-learning purposes. This study attempted to look into this area.

Such shortcomings noted in preceding section shifted the focus from viewing technology as a primary force for development to teaching learning methods, in other words regarding teaching learning method as primary and technology as a tool of delivery (Roblyer and Knezek, 2003). The following section looks into studies that have taken this line of approach.

2.3.2 Relative Advantage of E-learning in Enhancing Interactive Learning

Reviewed literature indicates that high levels of quality teaching and learning are achieved when e-learning technologies are accompanied with interactive teaching methodologies (Mbweza, 2014; Irwin, Ball and Desbrow, 2012; Nihuka, 2010). It has been suggested that good pedagogy and strategy are paramount, while technologies are secondary (Mansour, El-Said and Bennet, 2010).

Among such scholars is Nihuka (2010) whose study looks into students' knowledge and perceptions of computer and internet at The Open University of Tanzania. The study involved 208 students of The Open University of Tanzania and employed a structured questionnaire to collect data. The questionnaires comprised of yes-no and 5-point Likert scales. Descriptive statistics mainly frequencies, means and standard deviation were used to analyze and present results.

The study noted that while most students perceived interactive e-learning methods relevant and useful, such student perceptions were not in line with their computer and internet knowledge and skills. Based on the results of this study, Nihuka (2010) suggests that integration of e-learning at The Open University of Tanzania is necessary and efforts should be made to adequately train students on the usage of computers and internet for successful e-learning integration.

While Nihuka (2010) was more concerned with use of e-learning as teaching learning method McArthur and Bostedo-Conway (2012) were more concerned with the use social media as a tool for enhancing quality interactive learning through e-learning. Their study explored the relationship between student-instructor interaction on twitter and student perceptions of teacher behaviours at Queens University of Charlotte. They employed a survey-based experiment involving 144 students from Queens University of Charlotte in USA.

The study measured teacher credibility, immediacy, and content relevance alongside instructor twitter-use. Results indicate significant, positive correlations between student twitter-use and positive perceptions of teacher behaviors. These results indicate that students perceived the twitter as a valuable tool to supplement more traditional forms of

course instruction and suggested higher learning institutions to integrate it into their curriculum. This shows that forms and type of interactions enhanced through e-learning depends on type of technology used.

Similarly Tagoe (2012) conducted a study on students' perceptions on incorporating e-learning into teaching and learning at the University of Ghana, a total of 534 responded were involved in the survey. The study employed survey research design and used a questionnaire to gather the needed data. Results from the study show that, students preferred mixed mode with traditional teaching learning methods and web supplemented courses than web dependent and fully online courses which suggests that e-learning has more potential to promote quality learning's when mixed mode of teaching and learning is employed than fully on line teaching and learning.

Mansour, El-Said and Bennet (2010) looked into students' perceptions of social interaction in online courses in USA using experimental research design. This experiment was conducted to investigate the impact of using second life learning platform as a learning environment and a communication media on the e-learners' perceptions of social interaction. A questionnaire was mailed to 10 participants who were divided into two groups of 5 each. The mailed questionnaire was used to collect data for the study. One type of participation included e-learners who participated in the online course activities as well as second life activities, and the other type of participation included e-learners who participated only in the online course activities.

The findings indicate that the interactive interface of Second Life encourages e-learners to share experiences and visions and motivated them to interact with each other to complete the learning task. He encourages instructors to integrate and utilize interactive features

while designing and utilizing their e-learning platforms. This indicates that e-learning has potential to encourage quality learning when the adopted e-learning technology has the required interactive features that best accommodates interactive activities integrated in course design.

Mbwesa (2014) looked into the transactional distance as a predictor of perceived learner satisfaction in distance learning courses. Data was collected from a random sample of 168 pursuing a Bachelor of education (Arts) programme through distance learning at the University of Nairobi, Kenya.

A questionnaire, learner perceived transactional distance (LPTD) constructed by the researcher was used as the key tool of data collection. Results indicated that teacher – student transactional distance was one experienced by most of the students in this study. He argues that opportunities be provided for students to interact more with the teachers, through interactive learning such as giving praise, soliciting viewpoints, humour, self-disclosure and nonverbal actions such as physical proximity, which he asserts to lead to lessened psychological distance between teachers and their students, thereby leading to increased learning (Mbwesa, 2014). It could be deduced from such findings that use of social icons to convey feelings/mood, as well as praise and self disclosure contributes to promoting interaction and quality learning.

As indicated, the work of Nihuka (2010), Mbwesa (2014), Irwin, Ball and Desbrow (2012) McArthur and Bostedo-Conway (2012) Mansour, El-Said and Bennet (2010) have contributed to the understanding of e-learning potential in promoting quality learning. The reviewed studies show that e-learning has potential to promote quality learning when; academic faculty and students posses computer and internet user skills, when social media

is used to promote interaction, when appropriate interactive features are adopted, prompt feedback is provided, when; praise, self disclosure and use of social icons to express mood are made part and parcel of teaching and learning through e-learning.

However it could be noted that the reviewed studies in this section mainly focused on students learning through blended learning approaches. None of the studies focused on students learning mainly through e-learning as main form of study. In addition, most of them mainly focused on one form of teaching learning, with most of them being case studies and for the case providing limited coverage.

It could also be noted that these studies used quasi experimental design and quantitative methods. Methods, which cannot adequately capture students and their teachers' perception towards enhanced interactive learning through e-learning, such perceptions, tend to be inert feelings which cannot adequately be measured through quantitative research methodologies. It may be that more useful analysis aiming at gaining an insight into students and instructor perception, in applying e-learning interactive learning can only emerge when methods used to measure to enhance interactive learning are more closely related to the learning activities including processes by higher learning students.

However, existing evidence suggest that positive perception towards use of e-learning enhanced interactive learning by itself is no guarantee that one will use it for the purposes, equally important are effective strategies in enhancing such interactive learning. The next section examines this issue.

2.3.3 Strategies for Diffusion of Interactive Learning through E-learning

A good number of technology integration models have been developed to investigate the process of implementing innovations. These models also help to explain and define what happens to an innovation once it has been introduced in HLIs, what steps to follow for it to reach wider adoption and application. Since enhancing interactive learning through e-learning is an innovation, it needs to follow proper procedures for it to be adopted and applied by students and academic faculty members. Two models stand out, Rogers (1995) diffusion of the innovation model and Ely's (1999) conditions for technology adoption.

2.3.3.1 Diffusion of Innovation Strategy

Scholars, who lean towards Rogers (1995) innovation diffusion strategy, tend to regard technology as primary force for change which can be used to enhance traditional teaching learning methods. As a result most of them wish for a quick uptake speed of technology by education institutions (Aviram and Tami, 2001). These scholars however, are dismayed by what they regard to be an inherently slow response of education institutions in technology uptake. Aviram and Tami (2001) for instance, lament that it took 40 years to take the overhead projector from the bowling alley into the classroom, and are quick to observe that nowadays bowling alleys use computerized system to show scores much more than classes use the technology for teaching learning purposes, implying that sports enthusiastic are far ahead in technology uptake than academic institutions. Rogers (1995) seems to understand such enthusiasm for new technology but cautions that despite the advantages new technologies bring with, we should not expect technology uptake to be fast. Rogers (1995) conducted a study to predict technology uptake in areas where it is introduced and concluded that technology uptake takes a bell shaped curve.

According to Rogers (1995) when a new technology is introduced its adoption is normally slow at the start as only few institutions or individuals 2.5% termed as innovators readily accept and adopt the technology, adoption becomes more rapid followed after early adopters 13.5% and early majority 34% adopt the technology, then expect a slow diffusion till 34% of late majority are covered, then leveling off till only a small number of laggards adopt the technology.

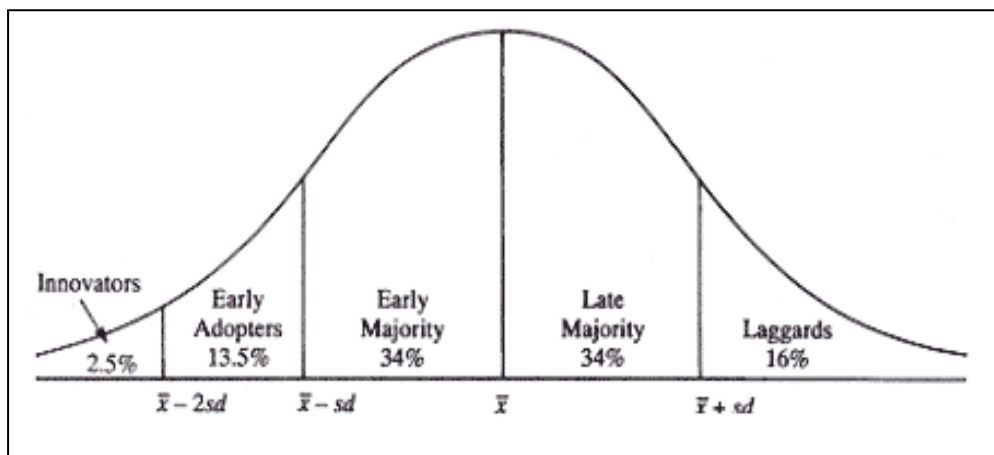


Figure 2.2 : The rate and pace of adoption of technology when introduced to targeted population. Source Rogers (1995)

The curve indicates a small number of individuals adopting the innovation early (left tail), followed by the majority of adopters. According to Rogers (1995) this is normal and a healthy sign. This also translates to mean that some of the so termed laggards would never adopt technology.

Following this line of thinking we should not be alarmed when we find out that diffusion of enhancement of interactive learning through e-learning technologies is slow. Since the strategy to enhance use of particular technology follows what Rogers (1995) calls as a diffusion of an innovation process by which an innovation is communicated through channels over time among members of a social system. This process follows five stages of communication: knowledge, persuasion, decision, implementation and confirmation.

Such observations find support from a study by Jwaifell and Gasaymeh (2013) which examined Jordanian Graduate Students' Attitudes toward and Use of Weblog in a Blended Learning Course" which covered 12 among 34 graduate students enrolled in a blended learning class in information technology. Findings of the study show that though most students had positive attitudes toward the use of the blog as a tool for communication and reflection to support their learning, actual use was low. Jwaifell and Gasaymeh (2013) use Rogers' (1995) innovation-diffusion model, to explain the reasons behind such discrepancy and argue that students were still in the decision stage of the innovation decision process in relation to the adoption of the blog as a tool for communication and reflection.

In 1985 Apple Classrooms of Tomorrow (ACOT) which is a research and development collaboration among public schools, universities, research agencies and Apple computer in USA, initiated a project which aimed at encouraging instructional innovation using computers through providing students and instructors with computers both at home and in schools for the purpose. ACOT adapted Rogers (1995) diffusion of innovation model (1995) to examine the impact of its innovative programme on students, staff, and parents. The adapted model came to be termed as ACOT model.

According to this model, effective integration of technology in teaching learning follows certain stages which are; the entry stage, at this stage adopters learn the basics of new technology, the next stage is adoption in which users use new technology to support traditional instruction, followed by adaption stage which focus on increased engagement, the next stage is appropriation which focuses on cooperation and the last stage is invention the stage of which adopters discover new uses for technology tools (ACOT, 1995).

In order to evaluate the project the study ACOT (1995) employed questionnaires as well as classroom observations of instructional practice from 32 elementary and secondary teachers in five schools located in four different states in USA. Findings show that the application of computers in class room had facilitated student improvement in a variety of skills identified as essential to prepare today's students for tomorrow's world (ACOT, 1995).

On much similar line Kajuna (2009) adopted the ACOT model to conduct a study on 'Implementation of technology integration in Higher Education: A case study of the University of Dar-es-Salaam in Tanzania'. In this study Kajuna (2009) was more interested in looking into the level of integration of technology by faculty academic staff at the University of Dar es Salaam in teaching and whether students were using technology for learning purposes. The study involved 24 students and 10 academic staff, one faculty dean and one head of department instructors using a semi structured questionnaire administered through telephone interviews and e-mails.

Findings show that few faculty academic staff had integrated technology in teaching. Some teachers used computers to present lessons with students becoming mere observers of how technology is being used. These findings are much similar to the study conducted by Jwaifell and Gasaymeh (2013) which had examined Jordanian Graduate Students' Attitudes toward and Use of Weblog in a Blended Learning Course" findings of which show that though most students had positive attitudes toward the use of the blog as a tool for communication and reflection to support their learning, actual use was low.

While Kajuna is silent on the stage at which students and academic staffs were at the time of the study, Jwaifell and Gassaymeh explicitly conclude that students were still in the decision stage of the innovation decision process in relation to the adoption of the blog as a tool for communication and reflection. But given the similarity of Kajuna's (2009) study findings and that of Jwaifell and Gassaymeh (2013), it is tempting to perceive that the two studies also share similar conclusions, since they all used Rogers' (1995) innovation-diffusion model, to explain the reasons behind discrepancies noted in their studies.

Following such conceptualization the reasons to why Kajuna's study (2009) had noted that few faculty academic staff had integrated technology in teaching while students were noted to be mere observers of how technology is being used, is that students and academic staff were still in the decision stage of the innovation decision process in relation to the adoption of e-learning to supplement face to face teaching and learning.

Since e-learning, in most HLIs in Tanzania at the time of this study, was at infancy stage, it warranted to be considered as an innovation which according to Rogers (1995) and ACOT (1995) should follow the mentioned five steps for it to be adopted and used for the purpose of enhancing interactive learning. Which means strategies to enhance interactive learning should start with providing information about the innovation knowledge as a first step, where an individual becomes aware of the innovation and its functions.

Taking e-learning enhanced interaction skills as an innovation, this would require communicating information about the advantages of e-learning enhanced interactive learning to targeted students. For this case, e-learning interactive learning should be regarded as an innovation starting from those already familiar with the technology; that is

those with the required skills and facilities at their disposal as these would be ready to use the technology than those who have no such skills and are not accessible to it.

The second step is processing the new information, or persuasion, where an individual forms a favorable or unfavorable attitude towards the innovation (Rogers, 1995; ACOT, 1995). Which means at this stage, students in higher learning institutions should be encouraged to use interactive learning in teaching learning activities for the purposes of trying out the innovation. The process of which will bring them to the third step which is constructing personal facts of the innovation, or decision, leading the individual to a choice of adopting or rejecting the innovation (Rogers, 1995). Students will only be willing to accept use of e-learning for purpose of enhancing interactive learning if they find that its use fits their learning needs and style.

The fourth step is putting the innovation into use. The fifth step is verifying the decision made, or confirmation, wherein the individual evaluates the innovation decision. The following figure shows Rogers' (1995) sequential steps of the innovation-decision process.

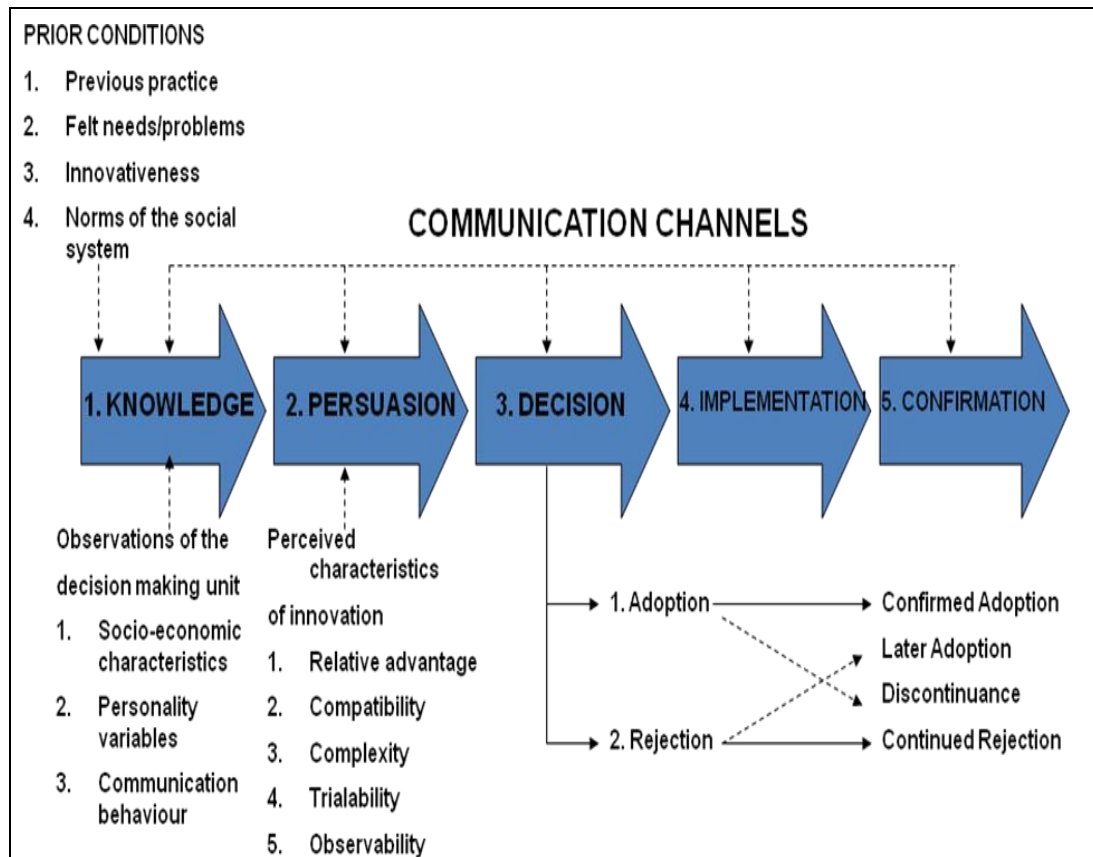


Figure 2.3 : The five stages of technology diffusion in targeted population. Source, Rogers (1995).

If the proposed Rogers (1995) and ACOT (1995) models are used to enhance interactive learning in higher learning institutions, through promotion of wide acceptance and application of interactive learning through e-learning, it would mean that; only 13.5 % (early adopters) will be using interactive learning for teaching learning purposes as these would be the targeted users in the first stage of the communication process.

A much deeper investigation using the entire higher learning institutions students and faculty population as market potentials for e-learning interactive learning as an innovation, would place e-learning interactive learning enhancement as an innovation emerging from those already using internet/computers. The so termed innovators and adopters will be those students who benefit from the resulting enhanced interactive

learning therefore receiving higher grades than those who are not targeted users at this stage.

Another shortcoming is that the strategy assumes that the act of innovating is positive and the act of rejecting an innovation is negative. It might be that though the innovation is good, the person intending to adopt it has good reason for not adopting it, which might be the high costs involved, accessibility, availability and lack of or poor digital technology application skills among others.

According to Hall (2002) the so considered as tougher to work with population who are termed by Rogers (1995) as laggards, have been created by a long history of neglect. The existing situations in Tanzania especially for distance learning students who are scattered all over the country seem to support such contention. If the proposed steps to enhance interactive learning through e-learning technologies are followed, most of those who will be left out will be found in remote locations where there are no internet connections, no electricity and those with poor economic means to travel to regional centers where such facilities are located, the other group of students that might be affected are the physically challenged students.

For such case studies should aim at finding out why the so termed laggards do not accept new technology as propagated by Rogers (1995) instead of simply regarding it natural that some people would resent new technology and since these tend to be few, they should be ignored. This argument is unacceptable especially for education institutions upholding rights to education opportunities to all.

For this reason interactive learning enhancement strategies that do not target this group would end up repeating the same problems experienced when using previous technologies (Hall, 2002). All this would result into increasing the digital divide between students in remote location including the physical challenged students and students in urban areas, with the urban students scoring higher grades than those in remote locations.

However some scholars hold a different view, to them technology is merely a tool of education delivery with teaching learning methods guiding the way on how such technologies could be deployed for the purpose. Such view tends to focus on required conditions in which interactive learning through e-learning should take place. The next section looks into studies that have taken this perspective.

2.3.3.2 Course Design for Interactive Teaching through E-learning

According to Ely (1999) there are eight such conditions which guide effective integration of e-learning in course design these are: Firstly, implementers must feel that what exist is inadequate and for the reason needs change. Secondly, implementers must have sufficient knowledge and skills to the required work. Thirdly, the required resources for the work should be available. Fourthly, implanter must be given enough time to learn, adapt and integrate the technology in teaching leaning and for students to adopt the technology. The fifth condition is that implementers must be encouraged, recognized and appreciated for their readiness to use the innovation. The sixth condition is that all stakeholders should be involved. The seventh is commitment of the leaders in leading the changes. The eighth is that leadership should be clearly seen taking active involvement in the implementation process.

However as Ely (1999) notes, the mentioned conditions need to be properly organized to produce a comprehensive plan for the purpose of producing effective results. The relevance of the described elements or conditions when applied to plan strategies that are aimed at enhancing interactive learning through e-learning in the four higher learning institutions under study are underscored by institutions which have attempted to put them into practice.

MUHAS for instance which boast to be the first university in Tanzania to adopt competency based education is among higher learning institutions which have more or less followed Ely (2009) eight conditions as a requirement for effective integration of e-learning in course design. MUHAS adopted this approach when it saw a need to revise its curriculum to embrace competency based teaching and learning.

Given the high number of students which was not in line with existing infrastructure and number of lectures, the approach chosen was heavily dependent on enhancement of interactive learning through e-learning as a means to promote quality learning.

According to Olipa *et al.* (2012) in order to draw up planning and implementation of the competency based teaching and learning the process involved consultation with key stakeholders that included students, graduates, and employers, as well as relevant administrative and governmental units and educational experts nationally and internationally. The first step of the process was in identifying specific competencies for students to achieve by graduation and in engaging stakeholders to understand adequacies and inadequacies of current curricula; and restructure and revise curricula introducing competencies identified.

The competency identification exercises had shown that students wanted more clinical and practical training, opportunities for active learning, training to use computers, and educational technology. While faculty wanted to be able to use interactive instructional strategies to increase active learning, use more technology in their teaching, develop and communicate expected student outcomes, teach and assess professionalism, and work inter-profession. Students and faculty were trained in computer application and search skills for the purposes (Olipa *et al.*, 2012).

The next step is inducing stakeholders into accepting interactive learning through e-learning. According to Ely (2009) this is best achieved through setting up a pilot project. Sife, Lwoga and Sanga (2007) argue that a visit to similar institutions where success has occurred has similar effects of changing the negative perceptions towards that particular innovation. This study regards this condition as an important step towards winning stakeholders into accepting interactive learning as well as contributing at wide adoption and use of interactive learning through e-learning among students and academic faculty in higher learning institutions.

Secondly the condition that there should be presence of sufficient knowledge is based on views that implementers require particular skills or knowledge in order for them to sufficiently implement the innovation (Ely, 1999). This implies that staff development should be an integral part of the strategic plan. Trainings to be conducted should go beyond technology user skills to incorporate training in e-teaching on part of academic faculty and information processing skills on part of students.

Nihuka (2011) regards collaborative course design in design team as part of professional development in that it allows shared information, knowledge and experience between participants through discussions that emanates in the course of developing course material. In this regard involvement of stakeholders in all stages of course design, constitute part of professional development training.

The third condition requires that resources should be available. According to Ely (1999), such resources include hardware, software, publications, audiovisual, and other teaching materials. This means the HLIs must provide the required resources to support the use of technology in teaching and learning. See (2004) cautions that effective technology plans should focus on application of the technology not the technology itself. Plans for this case should be output based and not input based as outcomes will determine the type of technologies to be used and even accommodate alternative technologies in existence.

The fourth condition is that implementers must have adequate time for the adoption of the innovation to take place based on perceptions that an innovation has to undergo a long process to be diffused. This contention is supported by Olipa *et al.* (2012) who argue that the magnitude of such work might take several years of relationship building, needs assessments, and piloting to prepare, and three intense years of collaboration, skill building, and technological upgrades to carry out; but it will require a decade or more to fully implement and evaluate the programme. However, See (2004) argues that effective plans should be short term as technology is changing very fast, and observes that a long term plan will end up tying HLIs to old technology. Such observation makes this condition redundant, this study ignored this perception and supports See (2004) contention that effective plans should be short termed.

The fifth condition states that implementers must be encouraged to use e-learning and such efforts should be recognized and appreciated. While Ely (1999) considers this aspect to be less effective than the other conditions, this study gives this condition equal importance to other conditions. The view is also supported by Lwoga (2012) who notes that students need to be encouraged to apply interactive learning through e-learning such as by making it a requirement for their course. It is noted that without such encouragements very few students would take part in interactive learning through e-learning (Lwoga, 2012).

According to Ely (1999) the sixth condition states that e-learning requires a new method of teaching and learning and for the reason, effective adoption and wide application of interactive learning for teaching and learning purposes would require involvement of stakeholders in all steps of decisions that involve planning and design of the innovation. Involvement of stakeholders in planning is considered to contribute at instilling a sense of belongingness to the programme and process.

Such an approach is conceived to help among other things dispel negative perceptions against use of e-learning for enhancing interactive learning. This view finds support from Nihuka (2011) who argues that interactive learning through e-learning is an innovation which most faculty members have not been exposed to before, which requires new methods of teaching learning, in that case faculty members need to be adequately trained, involved into adopting and using the technology for teaching and learning purposes.

Also important is that management is required to provide support to implementers; such support should come from top management of the organization and must be visible. Support such as accorded contributes at committing implementers to the programme. Such

support at MUHAS is noted through infrastructure development, trainings being conducted to students and faculty and setting up of Directorate of ICT which provides support in technology application in teaching and learning.

The eighth condition is insurance of active involvement of the leadership in the whole process of innovation adoption and implementation. Once the executive leadership is committed to the programme, then the programme leadership becomes important to the institution. In so doing contributing at influencing stake holder's perception towards enhanced interactive learning through e-learning.

According to Olipa *et al.* (2012) in implementing competency based learning curriculum at MUHAS, leadership involvement is evident; it was the vice chancellor himself who hosted a workshop for all MUHAS directors, deans, and department heads. He challenged faculty into developing new curricula to equip MUHAS graduates with knowledge and skills to address the significant health needs of the country. Such commitment contributes at buying in the commitment of other stake holders in e-learning.

However despite efforts described, a follow up study conducted by Lwoga (2014) reveals that only 23.1% of undergraduate students covered by the study were engaging with fellow students and lectures in discussions, the main reason being lack of adequate lecturer support accorded to students in terms of time taken to respond to students' queries.

Such shortcomings could be attributed to improper needs identification exercise which had ignored incorporation of investigation of faculty and students' perceptions towards use of e-learning. Reasons for such omission might be the tendency often conceived by

some scholars that the major cause of differing conceptions individuals hold towards an innovation are differing knowledge and experience on a particular area being investigated (Nihuka, 2011). The solution of which is simply involving all stakeholders in the planning and implementation of the innovation, based on the expectation that such involvement would equip them with the required knowledge and skills thus contribute to diffusing the negative perceptions such individuals hold towards the innovation (Nihuka, 2011).

However, lack of knowledge and skills are not the only reasons behind negative perception towards interactive learning through e-learning, the other reasons might be; fear of the unknown/innovation. In such case what could be regarded as being a conservative attitude in fact could appear as a logical answer to the prevailing problem unless a better option is made available.

For instance students who are learning in difficult learning environment may not be ready to forsake the tool they know better e.g. print material and face to face interaction for interactive learning through a media especially in cases where no convincing answers are at hand to explain what might happen if the experiments/innovation fails; in this case if the computer breaks down, electricity fails or where prohibitive high cost are required to access or use the technology (McArthur and Bostedo-Conway, 2012).

The other reasons especially for adult learners as described by Marwa (2010) is the discomfort most adult learners generally feel when they find themselves in a mixed age class with much younger students. Stressing this point Knowles (1990) argues that among the six characteristics of adult learners which should be considered when teaching adult learners, is providence of learning environments that meets adult learners' needs both physically and psychologically. In such environment Knowles (1999) argues that, adult

learners feel accepted and respected. Among actions which might be interpreted to be a lack of respect to adults is to put adult learners in a mixed class with young learners. Adult learners would not like to appear fumbling with computers before youngsters who might happen to be conversant with the technology.

In order to escape from such discomforts, older students may evade such trainings or sessions and opt to learn the hard way if it is the only viable option. Such option might be the one way face to face teaching and learning and or print material. The same applies when older or senior faculty are required to hold face to face discussions with young or junior faculty as part of staff development training requirements, or when older faculty are required to be taught by junior ICT staff.

In order to overcome such shortcomings some scholars contend that; learning theories and or research should guide strategic planning for interactive learning through e-learning. It is conceived that a properly conducted need assessment exercise would avert stakeholders into making wrong assumptions about targeted population perceptions towards interactive learning through e-learning, culminating into poor solutions on areas not well addressed (Rolfe, 2015). For instance statement that infer that some instructors are by nature against interactive teaching through e-learning indicates an incomplete diagnosis of a problem as it does not help to uncover the underlying reasons for instructors' resentment (Rolfe, 2015)

In such case an effective gap identification exercise should not only be complemented with investigation of stakeholders' perception towards enhancement of interactive learning through e-learning but such investigation should go much deeper to unearth the underlying reasons behind the so regarded as negative perceptions some students and

lecturers might be holding towards interactive learning through e-learning (Johnson, 2007; Conaway, Easton and Schimdit, 2005). This study regarded investigation of faculty and students perceptions hold towards use of e-learning for enhanced interactive learning a necessary part of the first condition that guides the whole process of planning and drawing up of strategies that leads to effective enhancement of interactive learning through e-learning and formed the main research question.

2.3.4 Type of Students Engaged into Interactive Learning Through E-learning

As indicated in previous sections, perceptions shape the forms, type, strategies and implementation of interactive learning through e-learning. Following such observations even the achievements realized would reflect perceptions students and faculty members hold towards enhanced interactive learning through e-learning and forms of interactive learning enhanced. One way to find out this is looking into type of groups of students and faculty members engaging in enhanced interactive learning through e-learning, forms of interactions they engage into as well as the levels of such interactions.

2.3.4.1 Students who Perceive E-learning has Potential for Interactive Learning

As Arbaugh and Benbunan-Fich (2006) observe, if students hold positive perceptions towards e-learning, they would definitely use it for learning purposes. Such view finds support from some of reviewed literature which shows that students who perceive enhanced interactive learning leads to quality learning are willing to use e-learning for the purpose.

One of such studies is an experimental design research by Osunade (2003) titled “An Evaluation of the Impact of Internet Browsing on Students Academic Performance at Tertiary Level of Education in Nigeria” conducted on two groups of students. One group

exposed to Internet learning (experimental group) and another group used as a control group. Findings from the study revealed a significant difference in academic performance for students with internet access and those without such access. Students exposed to internet learning platforms performed better than those exposed to traditional methods.

While some of the students perceive e-learning enhanced interactive learning leads to quality learning, others regard traditional forms of teaching learning as most useful for learning purposes, the view which is supported by some of the studies, which show that technology methods provide same resulting effects and in some cases traditional methods outperform e-learning. For example Garland *et al.* (1998) in his study titled “The Intranet as a learning tool: A preliminary study”, shows concern on consequences of using Internet for learning.

The study involved 19 undergraduate volunteers recruited from the Psychology Department at Bristol University who had no formal knowledge or expressed interest in History. It examined the amount, type and quality of learning of an undergraduate introductory history e-course when presented to three different groups of participants. All participants received four regularly spaced 30-minute study and repeated test sessions for over an eight-day period (Garland *et al.*, 1998).

The design of e-course content was the same for all three groups, the pen and paper group, Internet group and the Intranet group. A final test of new questions was also administered at the end of the study. Results showed that the amount of historical knowledge acquired by the end of the study was greatest for those participants who learnt using traditional methods and that over the four test sessions this group consistently outperformed both computer groups.

Finally, using usability questionnaires, it was found out that participants preferred learning via traditional methods to screen and intranet presentations and that participant who had learnt using computers felt that their learning experience had suffered (Garland *et al.*, 1998).

This implies that, the application of new technology for learner interaction enhancement purposes is unnecessary, even if it is tried, it would end up as an expensive failure and never would it outperform the old forms of learner interaction promotion strategies. For this reason, face to face teaching should remain to be the main forms of learner interaction (Vrasidas, 2000). Waddington and Davidson (2010) contend that, such view is shared by many scholars in high learning institutions and has been the major cause of hesitant and slow diffusion of technology for interaction enhancement purposes and goes on to argue that, one should not expect high learning institutions to readily accept e-learning technologies for the purpose of enhancing learner interactions.

This suggests that students, who perceive the e-learning as a technology that could improve their academic performance, are the ones utilizing it for interaction learning purposes than those holding a negative attitude towards its use.

2.3.4.2 Students Motivated to use E-learning for Interactive Learning Purposes

Most of the studies reviewed shows that faculty members and students with positive perception towards interactive learning are the ones adopting interactive learning through e-learning with technology user skills being the motivating factor (Nihuka, 2010; Mushi, 2006; Anderson, 2003; Lwoga, 2014).

Even then Fee (2009) cautions that among the group of would be users, we should expect to find individuals who are excited about the technology and just want to try it out even when lacking the required user skills, also in the group we should expect to find individuals who want to look modern, as well as those who want to appease their colleagues. The motivating factor being the person's perception that most people who are important to him or her think he should use e-learning for teaching learning purposes. However literature indicates that such enthusiasm towards e-learning quickly fades among this group when appropriate support is not provided (Sabah, 2013).

In order to find a way to deal with such a problem Sabah (2013) conducted a study which investigated the factors that affect the acceptance of e-learning among students. The study involved 100 students from Alquds Open University using 33 questions based on the Likert scale with 5 responses ranging from absolutely agree to absolutely disagree.

Findings reveal a good correlation between technical abilities and students' attitude towards e-learning. Which show that students with computer experience and frequent user are more likely to accept e-learning for enhancing interactive learning. Findings also show that students with no experience of e-learning tend to have weak motivation to participate in the e-learning process. Even then Sabah (2013) noted that strategies that promote interactivity and motivation contribute at enhancing and improving learning effectiveness across all the groups.

Sabah (2013) goes on to argue that effective gain is realized when motivation is incorporated in all the three different stages of the learning process: At the beginning of learning process; motivation activities should focus on attitudes and needs, during the

learning process; emphasis should be placed on stimulation and effect, and at the end of learning process; strategy should focus on competence and reinforcement.

2.3.4.3 Students Using Tools that Provide High Levels of Interactive Learning

It has been noted that e-learning tools differ in terms of their capacities in offering interactive learning. Mushi (2012) considers that levels of interaction provided by e-learning tools, varies depending on type of transmission medium used. Technologies that provide low interactions include one way transmission technologies such as recorded audio and video. While tools that provide high levels of interaction are those that provide two ways, delayed or immediate feedback technologies such as chat rooms, groupware tools, electronic conferencing or bulletin board systems. Highest levels of interaction permit a simulation of face to face communication such as two way video conferencing and virtual environments.

Among tools considered to provide two way interactive learning are online Social Networks (OSN). Online social networks are used for sharing information, academic discussions and messaging (Mtaho and Ishengoma, 2014). A study conducted by Mtaho and Ishengoma (2014) titled “Online social network as a tool for facilitating e-learning in Tanzania” looked into how OSN can be used as tools for facilitating interactive learning. The study employed content analysis to analyze how the Jamii Forums (JF) was being used as an e-learning platform in Tanzania. A total of 70 purposely selected students were interviewed to find out the extent of to which JF is used as e-learning platform.

Findings show that despite the Jamii Forum popularity, 34% of students indicated lack of accessibility to the JF as the leading reason, for poor utilization of the OSN for interactive learning purposes. This shows that only those accessible to the Jamiii Forum are using it

for interactive learning purposes. Following such perception it is expected that students accessible to tools that provide high level of interactions would be the ones using them more frequently for interactive learning purposes.

2.3.4.4 Students Encouraged into Interactive Learning Through E-learning

Reviewed literature indicates that learners who are encouraged into enhanced interactive learning through interactive activities incorporated in their courses, stand to use e-learning for interactive learning purposes (Arbaugh and Benbunan-Fich, 2006).

Reviewed literature show that students could be encouraged to engage in interactive learning by encouraging them to work on projects and by way of allowing students to facilitate class discussions through e-learning either synchronously or asynchronously (Mushi, 2006; Babyegeya, 2006; Mkuchu, 2000). Working in project-based learning teams and class discussions allows students to collaborate with their peers, share their work with others, and connect to real-world experiences through discussion forums, e mail and computer conferencing in e-learning environments (Mushi, 2006). Such interactive activities should be an integral part of the courses design.

This condition was investigated by Johnson (2007) who conducted ecological assessments of the online environment. The study had aimed at finding out whether learners had been encouraged to use e-learning when designing and implementing an e-learning course, which is one of the conditions put forward by Ely (1999). The study reviewed three courses taught by three instructors from two different higher learning institutions. Findings show several shortcoming for all courses reviewed: course A the instructor posted numerous announcements but provided brief replies to discussion boards, this was found to limit quality learner-learner interaction.

While the instructor for course B had created a process for peer editing applications but no learners used this opportunity, the reasons identified being that students were required to make only three postings to meet the requirements for the course. For course C the learner- learner interaction was found to lack for the reasons that the course provided some flexibility in learning such that student were found to be at different levels starting and finishing time for the course. Johnson (2007) argues that instructors should expect some students, who value the independent nature and flexibility of an online program to be unwilling to interact with one another.

While this suggests that encouragement should be made an integral part of course design and implementation, it also shows that students who value independent learning and those taking courses that allow flexibility in learning are less willing to take part in interactive learning though e-learning.

This suggests that students who are encouraged to use e-learning by requiring them to take part in interactive activities integrated into their courses are the ones engaging into interactive learning through e-learning than those lacking such encouragement in their courses. At the same time independent learners are among those not engaging in interactive learning through e-learning.

2.3.4.5 Students with Technology user Skills and Information Processing Skills

As Mnyanyi *et al.* (2010) note, in order for a person to access and use electronic information resources effectively as well as efficiently, one must have a good command of e-learning user skills. Such skills include how to use e-mail, undertake online discussion groups, communicate with lecturers regarding assignments, tasks, information, problems and how to use e-learning interactive tools to generate topics together with

identifying problems aimed at facilitating cooperative activities among groups of students locally and globally. Others include how to download, decompress and open documents together with programs from internet sites and archives and how to retrieve as well as use information from e-learning sources.

The study by Nnafie (2002), titled “An Investigation into problems of Internet Access and use in Dar es Salaam Tanzania” indicated that most users lacked skills for searching the web. As a result, most internet service operators spent much time in assisting users to navigate Internet. That proved to be a burden to users in terms of costs they had to incur since they were charged at an hourly rate, thereby failed to make full utilization of the service (Nnafie, 2002). Following this observation students, who are skilled in using internet stand to make better utilization of HLIs e-learning facilities.

Previous studies reported an increasing number of students wanting to use e-learning for study purposes (Jagboro, 2003). However, in order for students to be able to use e-learning, they need to be skilled in search for relevant materials. As the World Wide Web, is not indexed in the same method as the library index. This is also pointed out by Schaper and Pervan (2004) that users would be ready to use a particular technology if the required effort to do so is within users’ limits.

A study by Schaper and Pervan (2004) on “Students Perceptions on how to use e-learning tool”, revealed that students who had considered use of e-learning tools to be within their limit appeared to learn the basic concepts of using e-learning easily and required little additional instruction or help from the instructor during the face-to -face class meetings. Following this observation, HLIs students who consider use of e-learning easy to learn,

would only need minimal instruction or training for them to be able to use e-learning for interactive learning purposes.

Reviewed studies further show that, students with capacity to analyze retrieved information from e-learning stand to benefit from e-learning use than those who lack such skills (Lwoga, 2012). A study done by Todd (1995) in Australian schools titled “Information Literacy as a Catalyst for Educational Change” revealed that students with information literacy capabilities scored better in examinations. This is further demonstrated in a study by Bruce (1997), on the impact of information seeking and use process on learning outcomes. It showed that, different ways of experiencing information seeking and use process may have significant impact on learning outcomes.

In the study, three different ways of experiencing information seeking were identified. For some, information seeking was experienced as finding facts. Another group interpreted the exercise as finding sufficient information to allow them to form a personal standpoint on controversial issues. A third group experienced the process as scrutinizing and analysis. The third group was able to manage subjective views by critically analyzing and evaluating information sources (Bruce, 1997).

This suggests that effective interactive leaning through e-learning requires HLIs students to be critical of information they obtain during discussions with other students or obtained from the web. In addition, HLIs students need to know that searching and retrieving information from various sources entail more than just finding a source. Rather, it involves comparing, evaluating, and making decisions. Indeed, as Holmberg (2003) points out, it is a learning demand for students at university level education.

While students in lower levels mainly need self-contained teaching learning packages Students in higher learning institutions need to be made aware of different approaches or conflicting theories, which need students to have analytical and syntheses skills (Dede, 1996). It is thus expected that students who are skilled in technology application, search skills and information processing skills would be the ones engaged into interactive learning than those lacking such skills. This study was aimed at finding this out.

2.3.4.6 Students Accessible to E-learning Facilities

In order to be accessible to e-learning students need to be in frequent contact with computers; however this cannot be reached if e-learning access points are few and if the number of computers is not enough. The student computer ratio determines learner's use of internet leaning environment for interaction purposes. Being accessible to e-learning facilities is considered to be one of the essential requirements for one to get engaged into interactive learning.

Reviewed studies show that students who use e-learning less frequently tend to perceive interactive learning through e-learning less favorably. Such view is revealed by a study by Marwa (2010) titled "Accessibility and use of internet learning environment by distance education students: A case study of the Open University of Tanzania" the study used semi structured interviews, questionnaires and focus group discussions involving 80 students and three information technologist and one regional coordinator.

Findings of the study show that 20% of students involved in the study felt that distance from internet facility is a barrier towards effective use of e-learning facilities. It is thus expected that students who live near facilities will be using e-learning more frequently

than students living in remote locations especially in areas where even alternative facilities lack.

2.3.4.6.1 Non Physically Challenged Students

The term accessibility refers to conditions, which provide for equal e-learning access to everyone regardless of age, gender or disability. However, there is increasing concern that some students are being disadvantaged in terms of not accessing e-learning (Casely-Hayford and Lynch, 2003).

It should be noted that a significant number of students in HLIs might be physically challenged, such as; visual impaired students, students using crutches and wheel chairs, the condition which reduce their ability to effectively use standard equipment and products needed to access as well as use e-learning facilities for interactive learning purposes. This situation places a requirement for design of e-learning environment that meets the needs of the physical challenged students; such design should accommodate ergonomic needs of the physically challenged students (Casely-Hayford and Lynch, 2003).

Already, there exists assistive adaptive technology for use by the vision impaired students, the application of which makes it possible for vision impaired students to use e-learning (Casely-Hayford and Lynch, 2003). However, as Casely-Hayford and Lynch (2003) note, rapid acquisition of educational technology by education institutions in developing countries has not sufficiently addressed physically impaired students' needs. As a result, products with inaccessible characteristics are often purchased.

A study conducted by Kabuta (2014) titled “Problems facing students with physical disabilities in higher learning institutions in Tanzania” stresses this point. The study involved 12 physically challenged students using crutches and wheel chairs for mobility. These students were drawn from five higher learning institutions in Morogoro municipality; Sokoine University, Jordan University, Muslim University, Morogoro Teachers College and St. Joseph University.

The study employed interviews and self filled questionnaires to draw data from 12 challenged students, 82 normal students, 21 tutors and 40 parents and 5 heads of institutions. Findings of the study show that only 20% of ICT laboratories in the higher learning institutions were easily accessible to the physical challenged students. Such that physically challenged students using wheel chairs and clutches encountered difficult to reach the e-learning laboratories, some of the e-learning laboratories were placed in high raise buildings with no elevators and other means to reach them.

Some of the studies reviewed indicate that some of the HLIs in Tanzania have initiated programmes that takes into consideration students with special needs, among such institution is the OUT which has a special unit and facilities that caters for the needs of visual and hearing impaired students (Mbvette, 2015). However, it lacks facilities for other categories of the physically challenged students (Mbvette, 2015).

2.3.5 Factors Influencing Interactivity in E-learning

While educators and students are expecting e-learning to be exciting, some studies, have taken a different approach by looking not so much on the advantages e-learning, but on factors influencing interactivity of e-learning.

A study Mtebe and Raisamo (2014) looked into Challenges and Instructors' Intention to Adopt and Use Open Educational Resources (OER) in Higher Education in Tanzania. The major aim was to find out reasons behind a mismatch between, availability of free open educational resources that can potentially improve the quality of existing resources or help to develop new courses and uptake and reuse of these resources in higher learning institutions. The study used a questionnaire created using Google Docs, and emailed to 608 instructors selected randomly from five institutions out of which a sample of 104 (20.3%) instructors responses was obtained.

The study found effort expectancy had significant positive effect on instructors' intention to use OER while performance expectancy, facilitating conditions, and social influence did not have significant effect. Unreliable internet connection, quality of OER, and lack of awareness of copyright issues were found to be the main challenges hindering instructors to adopt and use OER. So as to remedy the situation they suggest that education institutions in Tanzania should find strategies that will maximize adoption and usage of OER in teaching.

In the same manner Mosha and Bea (2014) examined perceived barriers in using internet resources in higher learning institutions; A case of Mzumbe university in Morogoro region in Tanzania. They collected data from 50 filled questionnaires by students' lecturers and librarians and in-depth interviews from ICT personnel, educational professionals and ministry of education and vocational training.

They found out a mismatch between readiness to use e-learning resources for teaching and learning and actual usage, the major influencing factors identified were internet

speed, computer user skills on skills on how to search for internet resources, technical support, computer viruses, adequacy of Personal Computers (PCs).

Mtebe and Raphael (2013) conducted a study titled Students' experiences and challenges of blended learning at the University of Dar es Salaam, Tanzania. The study used a self fill questionnaire for data collection involving 22 students enrolled into post graduate courses through blended learning programmes under dedicated learning centers in Mwanza, Arusha and Dar es Salaam.

Findings revealed outdated learning resources, unavailability of instructors during live online sessions, under-utilization of Learning Centres, and technical difficulties as the main factors that affect students from excelling well in blended learning programmes. He recommends that the center for Virtual learning which runs the programmes should provide reliable and effective user support regularly to instructors so that they can use Moodle system effectively.

Qureshi *et al.* (2012) study looked into Challenges of implementing e-learning in a Pakistani university. The source of this data was a questionnaire which comprised of structured questions. The population sample for the study was bachelors, post-graduate and PhD students of management sciences department of Iqra University, Islamabad. A total of 350 questionnaires were sent to participants out of whom 238 were returned. Findings show that the most significant barrier to e-learning experienced by students was electricity failure and English proficiency.

Tarus, Gichoya and Muumbo (2015) conducted a study titled challenges in implementing e-learning in Kenya: A case of Kenya public universities. The study was based on a

survey of 148 staff of three public universities who were using e-learning in blended mode approach. Data was collected through questionnaires, in-depth interviews and document analysis. The findings reveal lack of affordable and adequate Internet as well as lack of operational e-learning policies as a hindrance towards implementing e-learning in Kenya public universities. He recommends that Kenyan public universities should address these challenges as a prerequisite to successful implementation of e-learning.

2.3.6 Potential for Adoption of Interactive Learning Through E-learning

Reviewed literature mentions some of the important requirements for achieving interactive learning through e-learning in HLIs. The fulfillment of such requirements, work as potentials to encourage adoption and use of e-learning for interactive learning purposes.

Such requirements include; the existence of a feeling among implementers that the existing efforts to promote quality teaching and learning are inadequate, secondly implementers must have sufficient knowledge and skills to implement the programme, thirdly the required resources should be available, fourthly the institution leadership should show commitment and support to the innovation, the other is involvement of stakeholders in implementing the innovation (Early, 1999; Fee, 2009). Most of the studies that were reviewed indicate that these requirements have not adequately been fulfilled.

A study by Nihuka (2010) for instance, shows that to OUT had fulfilled some of the mentioned requirements for promoting interactive teaching and learning, such requirements include training faculty members in course design as well as in computer and internet applications skills. In addition OUT had created internet laboratories for

students and academic faculty use in its regional centres (Marwa, 2010). Even Nihuka (2010) indicates that, few faculty members had uploaded their course material onto their institutions Learning Management System (LMS).

Which implies that training offered in uploading teaching learning materials onto the LMS was inadequate (Nihuka, 2010) it could also be possible that the main reasons could be that they perceived traditional teaching learning methods better than interactive teaching learning methods or that they lack skills to teach through e-learning. Having a number of students and faculty already trained in technology user skills could be regarded as potential for further development of e-learning as it shows that higher learning institutions are not starting from scratch in implementing e-learning what is needed is to improve training by including e-learning skills and e-teaching as part of training.

Most higher learning institutions have developed ICT policy though most have introduced the document at a later stage this could also explain the reason as to why some of the HLIs lack e-learning policy, or introduce it late in the programme (Mtebe and Raphael, 2013). It is possible that most HLIs simply assume that most faculty members, with the exception of very few who they regard to suffer from technophobia, perceive e-learning technology as inherently superior in enhancing quality learning (Ngenzi, 2012). In this regard the resulting enthusiasm towards e-learning is regarded to displace the need for e-learning policy at least in the first stages of introducing e-learning in HLIs.

However e-learning policy is regarded to be among key requirements for guiding the implementation e-learning programmes as well as in buying in stakeholders into accepting and committing themselves in interactive learning as part and parcel of the solution to quality learning, the others being a pilot programme drawn by all key

stakeholders for demonstrating the capabilities of e-learning in enhancing interactive learning, participatory planning involving all key stakeholders in designing e-learning package, training of faculty members and students in user skills and selection of most appropriate technology (Olipa *et al.*, 2012).

The majority of researchers have observed that some of students are not fully utilizing their institutions computer laboratories for interactive learning purposes, the reasons put forward being the distance to the internet facility and social and economic responsibilities. While such observation could be true it could also be equally true that the most preferred tool is not the computer as often conceived but other available technologies, which also indicates inadequate or lack of involvement of stakeholders in planning. This aspect was investigated by this study.

Poor involvement of stakeholders in planning and implementation of the innovation could result into leaving most of the decisions on how the implementation of the innovation would be carried out to one group or individuals resulting into adoption and application of e-learning technologies that fulfill the interests of individuals or groups with decision powers. Poor involvement of stakeholders could also be the reasons as to why some technologies such as smart phones have been condemned by some of the scholars, as the type of technologies that HLIs should be prohibited to own and use, for perceived reason that they distract learning (Kibona and Mgaya, 2015).

It is also possible that the most influential group in deciding which technology should be adopted and applied as the main form of teaching and learning is the one that hold negative perception towards its application. Such situations denies some of the students

especially those in remote locations and the socially and economic deprived students, opportunities to interactive learning through existing e-learning technologies.

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2.3.7 Existing Gaps in Reviewed Literature

This review of related literature revealed the existence of differing perceptions among stakeholders towards technology based teaching. Perceptions identified are the view that new technologies have potential to promote learning and for this case each higher learning institutions should strive to obtain new technologies as they come in (Brecht, 2012).

Other scholars perceive technology supported learning as a false promise to enhanced interactions and quality learning arguing that normally costs used to put the infrastructure in place does not square with benefits accrued. For such reason they conclude that it would be more benefitting not to employ technology based teaching and learning. Higher learning institutions should instead look into other interactive face to face teaching learning options (Oppenheimer, 2003). While others, consider best benefits from application of interactive learning thorough e-learning are obtained when learning institutions in question, employ constructivist principles with technology being regarded as an instrument to achieve that aim.

Despite the abundance of literature on differing perceptions individuals hold towards the association between application of new technology and development. In-depth investigation of this aspect has not been considered when designing e-learning programmes in most of the HLIs. For instance though some researchers note that some faculty members resent using e-learning for teaching leaning purposes even then such

researchers find no need to dig further into such observations so as to find out the reasons behind such resentments.

This clearly indicates the knowledge gap existing prior to this study. Indeed, when considered together, it is clear that results of previous studies on the subject are inconclusive in that they cannot be regarded as complete. Added to this, to date, no significant work has considered the influence of faculty and students perceptions towards use of e-learning to enhance interactive learning and what could be done in order to in order to come out with a strategic plan that would buy in the commitment of all stakeholders with differing perceptions towards enhancement of interactive learning through e-learning.

Thus this study has contributed at adding to the growing body of research, useful information regarding the effect faculty and students perceptions have towards enhancing interactive learning through e-learning and how such perceptions influence strategies adopted to enhance such interactions and quality learning.

2.3.8 Chapter Summary

In this chapter, four learning theories that relate with the problem investigated namely behaviorism, cognitive, constructivism and connectivism were reviewed. Based on theories reviewed the next section focused on empirical literature related to issues under study that is students and instructors perceptions about enhanced interactive learning through e-learning, the potential of e-learning in promoting the quality of learning, strategies for enhancing interactive learning, type of students engaged in interactive learning through e-learning, barriers students and academic faculty face when attempting

to use e-learning facilities and or tools for interactive teaching and learning purposes and existing opportunities with potentials to encourage adoption of e-learning for interactive learning purposes. Identified gaps were lack of studies with a focus on faculty and students perceptions about use of e-learning to enhance interactive learning which could had helped in strategic planning, policy and course design that would buy in the commitment of all stakeholders with differing perceptions towards enhancement of interactive learning through e-learning. The next chapter describes the methodology used to to provide data to the problem investigated.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology. It includes the research design, study area, population and sampling, research methods, techniques and procedures followed to ultimately produce a comprehensive research report.

3.2 Research Design

This study used a case study design to describe students' perceptions about e-learning for enhancing interactive learning in higher learning institutions in Tanzania and how such perceptions relate to strategies employed to enhance interactive learning through e-learning in four higher learning institutions in Tanzania. The case study research design was considered appropriate in providing answers to this question as it is regarded to be a powerful and focused tool for determining the social, economic, psychological and pedagogical pressures driving this situation (Yin, 2003).

The perspective is that human beings construct their own reality, and an understanding of why they believe they should use or not use e-learning for interactive learning purposes is very important. Emphasis placed by case studies is on the qualities of entities, processes and meanings that cannot be measured through experiments, examined or measured in terms of quantity, and amount of intensity (Mack *et al.*, 2005).

Case studies are regarded suitable for such kind of situations since they are conducted in a natural setting without intentionally manipulating the environment (Mack *et al.*, 2005). This allows the researcher to get information, which is purposive and comprehensive

(Savenye and Robinson, 2001). Similarly, as Yin (2003) highlights, it has been proven to be the best method for answering how or why questions. Case studies normally entail use of in depth unstructured interviews, documentary reviews, close-ended questionnaires and focus group discussions to gather descriptive data for the study (Savenye and Robinson, 2005).

3.3 Study Area

In 2014 the number of higher learning institutions (HLI) in Tanzania that were categorized as universities were 47 and 22 of other HLI that offered degree level programmes were categorized as non universities, which added to a total of 69 institutions offering degree courses (TCU, 2014). By the time of this study there were seventy such institutions (TCU, 2015). Some of these higher learning institutions were at different levels of implementing e-learning, to supplement conventional teaching learning. Institutions which were noted to be using e-learning included Sokoine University (SUA), St. Augustine University of Tanzania (SAUT), the Institute of Adult Education (IAE) and Kampala International University (KIU) (Lwoga and Nagunwa, 2012). Very few were at the stage of offering some or most of its courses through e-learning as the main form of teaching learning. Such institutions are Muhimbili Health and Allied Sciences (MUHAS), The Open University of Tanzania (OUT), the University of Dar es salaam (UDSM), and Mzumbe University (MU) (Reuben, 2014). On the basis of the extent of using e-learning the study area for the study was confined to the last four higher learning institutions.

3.4 Study Population

Polit and Hungler (1999) refer to the population as an aggregate or totality of all the objects, subjects or members that conform to a set of specifications. In this study the first category of the population were all students in higher learning institutions in Tanzania using e-learning to supplement traditional conventional teaching learning or print study

materials for students learning through a distance learning mode. The second category was lecturers teaching through e-learning to supplement other forms of teaching and learning. The third category were ICT administrators who were providing support to students and lecturers when engaging in interactive teaching and learning through e-learning.

3.5 Study Sample

The study sample comprised students, instructors and ICT administrators from four higher learning institutions namely OUT, UDSM, MUHAS and MU. It is clear that the size of the target population was large for a single researcher and it would have been difficult for him to reach all HLIs due to their space location distribution, additionally most had similar study related characteristics hence the ones that were sampled were considered to be good enough to represent those left out. Such considerations compelled the researcher to select a representative sample of the HLIs (Onwuegbuzie and Collins, 2007). The sample size, according to Sandelowski (1995) cited in Onwuegbuzie and Collins (2007) is important in both qualitative and quantitative research. A sample size for a quantitative research can be determined through statistical techniques or through experience. Accordingly what is to be considered is that the sample selected should not be extremely small as to make it difficult to achieve data saturation or be too big to undertake of an in-depth analysis Onwuegbuzie and Collins (2007).

This study incorporated Onwuegbuzie and Collins (2007) suggestion for determining sample size. A sample size of 64 undergraduate students registered in four courses in each of the four higher learning institutions was selected to participate in the study. These made a total of 256 undergraduate students. A total of 225 students responded to the questionnaire as indicated in Table 3.1. Three instructors from each of the selected higher

learning institution were selected making a total of twelve instructors. One ICT administrator and six students from each of the four HLIs were selected to take part in interviews making a total of four ICT administrators and 24 students. In order to obtain gender balance, efforts were made to select equal numbers of female and male respondents from each category of the sample.

Table 3.1 : Summary of Study Respondents

Characteristics	Category	Number	Percentage
Gender	Male	113	51.11
	Female	112	48.88
	Total	225	100.00
Institutions	Open University of Tanzania	54	24.00
	University of Dar es salaam	56	24.89
	Muhimbili University of Health and Allied Sciences	58	25.78
	Mzumbe University	57	25.33
	Total	225	100.00
Instructors	Male	7	58.33
	Female	5	41.67
	Total	12	100.00
ICT	Male	3	75%
Administrators	Females	1	25%
	Total	4	100.00

3.6 Sampling Technique

Purposive sampling was used to select the four higher learning institutions that were covered by the study as well as instructors and ICT administrators. While a two stage cluster sampling was used to select the students who participated in the study. In this

regard, faculties in each of the four higher learning institutions were considered as clusters, then a set of clusters were selected for the study (four faculties in each of the higher learning institutions), lastly a fixed number of students were planned to be selected from each of the selected clusters to make a total of 64 students from each higher learning institutions (Onwuegbuzie and Collins, 2007). In this study only volunteering students from the selected clusters participated in the study, so the sample of the study was not random, of the expected 254 students only 225 (88.58%) took part in the study.

Table 3.2 : *Students Respondents by Course*

Institution	Faculty/School	Number of courses and respondents	
		Courses	Respondents
OUT	Faculty of Arts and Social Sciences	17	22
	Faculty of Education	7	12
	Faculty of Science, Technology and Environmental Studies	7	11
	Faculty of Business Management	6	9
	Total	37	54
UDSM	College of Natural and Applied Sciences (CoNAS)	15	21
	Economics and Business School of Journalism and Mass Communication (SJMC)	9	12
	College of Social Sciences (CoSS)	8	10
	College of Humanities (CoHU)	11	13
	Total	43	56
MU	Faculty of Social Sciences	7	15
	School of Public Administration and management (SOPAM)	7	14
	School of Business	7	16
	Faculty of Science and Technology (FST)	6	12
	Total	27	57
MUHAS	School of Medicine	7	34
	School of Nursing	3	15
	School of Public Health and Social Sciences	1	4
	School of Pharmacy	1	5
	Total	12	58

3.7 Demographic characteristics of student respondents

The general information required from respondents in this study included gender, employment status, place of residence while studying (remote or urban) and age. A total of 256 questionnaires were distributed to respondents; 128 male students and to 128

female students, of which 225 (87.89%) questionnaires were returned. The dominant group of respondents were youths, with more than sixty percent (60.89%) of the respondents belonged to the age group of 20-24. The number of males and females were almost equal, 113 (50.22%) males and 112 (49.78%) females and most (87.56%) were unmarried. The occupational distribution indicates that only 13.33% of the respondents were employed, more than eighty percent (86.67%) were unemployed. More than forty percent of respondents (40.44%) were from remote locations while close to sixty percent (59.56%) were from urban areas/campus. Table 3.3 displays the demographic characteristics of the student sample used in the study.

3.8.1 Semi Structured Questionnaire for Students

This study used semi structured questionnaires as they were considered to provide more opportunity to gain a deeper understanding of the respondents' experiences, feelings and perspectives, as compared to information collected through close ended questions (Savenye and Robinson, 2001). The questionnaire schedules were used to collect data from students.

Table 3.3 : Descriptive statistics of students' respondent's characteristics

Characteristics	Category	Frequency and Percentage	
		N	Percentage
Students	Male	113	50.22
	Female	112	49.78
	Total	225	100.00%
Age group	20-24	137	60.89
	25-29	54	24.00
	30-34	8	03.56
	35-39	9	04.00
	40-44	6	02.67
	45-49	8	03.56
	50 and above	3	01.32
	Total	225	100.00
Marital status	Married	28	12.44
	Single	197	87.56
	Total	225	100.00
Institution	OUT	54	24.00
	UDSM	56	24.89
	MUHAS	58	25.78
	MU	57	25.33
	Total	225	100.00
Employment	Employed	30	13.33
	Un employed	195	86.67
	Total	225	100.00
Place of living while studying	Remote	91	40.44
	Urban	134	59.56
	Total	225	100.00

There are basically two methods of deploying questionnaires to respondents, the first is by posting the questionnaires to respondents to be filled by the respondents at own time and place, the second is by supervising the filling in of the questionnaire, by physically handing over the questionnaire to the respondents in that case, filling of the questionnaire takes place in presence of the researcher who collects it after it has been filled (Mack *et al.*, 2005). In this study questionnaires were filled in presence of the researcher and in some instances the filling was done by the researcher. Two research assistants both third year undergraduate students one from Mzumbe University and another from the University of Dar es Salaam who were initially trained by the researcher helped in distributing, filling in and collecting filled questionnaires from respondents.

The advantage of using this data gathering technique is that it provided for gathering data from many respondents at one time from students from all institutions, for this reason it is most useful when a large sample is required to participate in the study (Savenye and Robinson, 2001). This technique was useful in gathering information from a total number of 225 respondent students from the expected 256 students. Information collected through questionnaire schedules formed primary data for the study.

3.8.2 Documentary Reviews

Documentary reviews were used as another technique to further supplement the above mentioned methods of gathering information for this study. Savenye and Robinson (2001) define a document as any written or recorded material. Therefore, documentary review is a process of reading various texts found from offices dealing with the issue related to the study (Savenye and Robinson, 2001).

According to Savenye and Robinson (2001), there are two types of documents, primary and secondary documents. Primary documents are original information sources; which include research reports, inventories, check lists and memoirs (Savenye and Robinson, 2001). Secondary documents include books, journals and other published materials. In this study, both primary and secondary documents were used. Documents reviewed included, e-learning and ICT policies, rolling strategic plans, prospectuses, newsletters as well as OUT, MUHAS, UDSM and MU websites.

3.8.3 In-depth Interview Schedule

An interview is a technique of collecting information through oral or verbal communication face-to-face between the researcher and respondents in order to address study questions (Urie, 1979). This technique had the advantage of providing an opportunity to the researcher to probe and ask follow-up questions thereby gaining a deeper understanding of the interviewees' experience, feelings and perspective (Anderson, 2003).

The in depth interviews were used to obtain detailed information about students', ICT administrators and instructors perception and behaviors. The purpose was to provide further clarification to some of the issues raised in the questionnaires in such way offering a more complete picture of students and instructors perceptions about interactive learning through e-learning and their experiences while interacting through e-learning.

A structured interview guide was designed and used to collect data from 24 students, six students from each of the high learning institutions and three instructors from each of the HLIs and one ICT administrator from each of the HLI. Interviews were conducted in their respective institutions at their own suggested time and lasted for about 40 minutes. Each

interview session was recorded and later on, transcribed for theme analysis. In this study, thematic analysis (Bernard, 2000) was used to identify, analyze and record themes from data extracted from respondents. The interview schedules were different for each category of respondents and were administered by the researcher through one to one interviews (See Appendix B, C and D). Information from interviews provided primary data for the study (Savenye and Robinson, 2001).

3.8.4 Content Analysis Guide

Content analysis of Jamii forums was conducted for the purpose of exploring the type of communications taking place and support accorded by faculty to students. The Jamii forums review was conducted after collection of filled questionnaires, which helped to define and refine the social media review guide used in the study. The purpose for the review was to identify strategies used to encourage students to use social media for purpose of enhancing interactive learning through fostering social, cognitive and teacher presence, (Savenye and Robinson, 2001). In this regard, the researcher logged into the Jamii forums archives and systematically extracted students and faculty members' exchanges conducted in the 2014 – 2015 academic year.

Extracted communications were in the form of; number of posts, comments, and responses, based upon four defined genre categories; sharing of experiences, educational resources, information about course, discussions and advice.

3.8.5 Observation Checklist

Another data technique used in this research is the observation technique. The observation technique allowed the researcher to be physically present in a social setting and witnessed interactions including social processes vital to the study (Marcus and Ducklin, 1998). For

these reasons, observations were used to acquire first-hand, live, sensory accounts of phenomena as they occur in real world settings (Marcus and Ducklin, 1998). According to Savenye and Robinson (2001), there are two types of observation techniques, participant observation and non-participant observation. In using the participant observation technique, the observer becomes a legitimate member in the community being observed.

In non-participant observation technique, the observer does not interact to a great deal with those he or she is observing (Savenye and Robinson, 2001). It often focuses on aspects of a setting so as to answer specific questions within the study (Savenye and Robinson, 2001). In this study, the non-participant observation technique was used to observe the physical design of the computer laboratories and workstation design. The observation checklist was used to help guide the observations. The main reason for using non-participant observation technique was due to its specific advantage in data gathering, which allowed for the researcher to be un-obstructive and also as a tool for triangulation.

3.9 Data Collection Procedures

Data collection was conducted from 27th of October 2015 to 23rd January 2016 from in the four higher learning institutions in Morogoro and Dar es Salaam regions. Research participants were contacted in their respective institutions, explaining to them the research objective and asking them to participate in the study. The selected participants were then directed to fill the questionnaire in presence of the researcher. In depth interviews were conducted immediately after collection of questionnaires from students followed with observation of computer laboratories. Content review of the Jamii forum was conducted after data collection and analysis of data obtained from interviews and questionnaires.

3.10 Validity and Reliability

The extent to which interpretations of research results follow from the study itself and the extent to which results may be generalized to other situations was considered in this study. This brings up the question of validity, reliability and generalizability. However, some scholars like Onwuegbuzie and Collins (2007) argue that terms validity, reliability and objectivity often used in quantitative studies do not capture the purpose and methods of qualitative studies. They provide a corresponding classification for validity in qualitative research. Accordingly, it is lack of representation and legitimation, which threaten qualitative researchers' ability to extract meaning from data (Onwuegbuzie and Collins, 2007).

Lack of representation refers to difficulty for qualitative researchers to adequately capture lived experiences, since such experiences are created in the social context interpreted by the researcher. Another threat is researcher's bias based on his/her own experience and through use of written text representing the experience of the `other`. Lack of legitimation refers to difficulties in obtaining findings or making inferences that are credible, trustworthy, and dependable confirmable and transferable. Steps were taken so as to deal with this foreseeable and possible crisis. They included selection of sample size as described in section 3.5, and triangulation (Onwuegbuzie and Collins, 2007).

This study used triangulation method to ensure validity of the study. According to Jakob (2001) triangulation refers to the combination of two or more theories, data sources, methods or investigators in one study of a single phenomenon to converge on a single construct (Jakob, 2001). Among benefits triangulation allows researchers to be more confident of their results. Denzin (1978) posts that there are four types of triangulation which are; the use of different sources of information such as use different groups of

people to find the same information, the use of different investigators or researchers using the same qualitative method, the use of multiple professional perspectives to interpret a single set of data or information (theory triangulation) and the use of multiple methods of qualitative research to study a phenomenon, and the results are compared.

This study used data triangulation and methodological triangulation to achieve trustworthiness. For data triangulation, this study used faculty academic members, ICT administrators and students as different source of data. This was achieved by constructing some questions that appeared in the interview schedules for faculty members, ICT administrators as well as interview schedule for students. For methodological triangulation five primary methods or strategies were employed: questionnaire filling, interviews, observations, content analysis of social media and document analysis (Savenye and Robinson, 2001).

The sample size and triangulation assisted the researcher in making inferences that are credible, trustworthy, dependable, confirmable and transferable. In this study data triangulation was arrived at by using different data gathering instruments; that is documentary review guide, questionnaires, observation guide, in-depth interviews and content review of social media guides. In this regard in-depth interviews and social media content review were conducted after collection of questionnaires, which helped to define and refine interview guide and the content review guide of social media. The three instruments were then used to explore respondents' perceptions about the topic.

In order to increase reliability of the instruments, respondents' questionnaires schedules were pilot tested at OUT Kinondoni center to ten students. The information gathered through comments and suggestions from the pilot test were used to improve the

questionnaires in terms of clarification of wording and overall format before distributing the instruments to study participants (Savenye and Robinson, 2001).

3.11 Data Analysis Procedure

This study employed quantitative and qualitative data analysis techniques, students and academic faculty perceptions about the effectiveness of e-learning in promoting quality learning, was measured through a 5- point Likert scale. Since higher scores indicate more positive responses, responses to question 8 in students' questionnaire schedule were reversed before calculating total scores.

Data collected through in-depth interviews were categorized into themes in relation to objectives of the study. Other qualitative data obtained through interviews, content analysis of social media, documentary reviews and observations were analyzed through content analysis and presented in table and text formats. Data collected through structured questionnaires were analyzed through Statistical Package for Social Sciences (SPSS) (Savenye and Robinson, 2001).

3.12 Ethical Considerations

Ethics is a branch of philosophy that deals with thinking about moral problems and judgment of proper conduct, while the term ethical is used to connote rules of behaviour or conformity to a code or set of principles (Kimmel, 1988). Coontz (1999) contends that ethical issues should be observed in research as required by values that cultures attached to rights of individuals. For this case, as Kimmel (1988) points out that human subjects involved in research should be treated with respect and protected from harm. Protection applies to potential harm, informed consent, privacy, confidentiality and deception.

Kimmel (1988) stresses that protection of research participants should be applied at all stages of research design including how subjects are recruited and how they are treated during the course of research procedure to consequences of their participation after they had revealed certain information to researchers. In response to these requirements, this study observed ethical requirements in the following ways. Prior data collection exercise the researcher sought for research clearance from OUT.

The researcher and his assistants approached each of the four universities for permission to conduct the study, the research clearance letter provided helped to get required support from the respective universities. After being allowed to go ahead with the exercise the researcher approached lecturers and students and requested them to take part in interview sessions, all approached lecturers' consented. Some of the students declined to take part for various reasons and were not persuaded in any way to take part in the study. Before the interview and questionnaire filling exercise all participants were told that their participation is voluntary and that they are free to withdraw from the exercise anytime. No names appeared on any papers collected after the interview and questionnaire filling exercise.

3.12.1 Physical and Psychological Harm

Though physical harm in social research is unlikely, but a possibility for individual research participants to be psychologically harmed exists. That might happen in form of embarrassment, loss of self-esteem and trust during data collection stage. In this study, steps to minimize chances for the likelihood for this to happen was taken during the design, data gathering and data treatment stages through designing, presenting and treating collected data in a way that did not cause embarrassment or betray of trust and self-esteem of research participants. This included not hurrying participants in responding

to questions posed and rephrasing questions felt not to be answered properly. All collected data was entered in the computer and remained in custody of the researcher.

3.12.2 Informed Consent

Informed consent from research participants to participate in research is important (Coontz, 1999). Research clearance was obtained from OUT as per research regulations. Prior to conducting the study permission to gather needed data was sought from each of the four higher learning institutions covered by the study. Before filling of questionnaire and interviews schedules, it was explained to research participants that participation in research is voluntary and that one was free to withdraw from participation at any stage of the interview or discussion. This information formed part of the introductory part of the research instrument, during the interview and questionnaire filling sessions this part was read to participants prior to data collection exercise. Only the researcher had access to the completed questionnaires and interview schedules, and which contained no information that could connect them to study findings as individuals.

3.11.3 Privacy and Confidentiality

One way through which privacy of individuals in research could be invaded is use of concealed devices such as microphones and taking photos without participants' consent. It is planned in this research to use a tape recorder during interviews as well as take pictures of students while using internet facilities. Participants as such were informed of the purpose and their consent sought prior to interview sessions. However even after participants had given their consent the researcher had noticed that some of the participants appeared to feel uneasy despite assurance from researcher that information recorded would remain confidential, for this case tape recording for all in-depth interviews was not held.

3.12.4 Deception

Deception is another method often applied in research, which was felt to violate rights of research participants (Coontz, 1999). Those who support deception in research argue that certain cases in research require use of deception so that participants do not present a favorable image of themselves and/or respond in ways different from how they would have ordinarily done thereby affecting quality of research findings (Coontz, 1999). However, the use of deception in research regardless of advantages claimed to provide, is not supported by most researchers (Coontz, 1999).

In response to these observations, this research observed the rights of research participants. The researcher did not in any way attempt to deceive participants such as discreetly recording the interview sessions, though most participants had opened after noting that the session was not being recorded.

3.13 Chapter Summary

This chapter described the methodology used in this study, it explained study methods, study area, sampling technique, data collection methods, how data was treated and how ethical issues were observed. The study was conducted in four HLIs in Dar es Salaam and Morogoro regions in Tanzania. The population for the study included students, academic faculty and ICT administrators in Tanzanian HLIs. The sampled population for the study included 225 students (113 males and 112 females); three instructors from each of HLIs were purposely selected making a total of twelve instructors. A total of four ICT administrators one each from the four HLIs covered by the study. Six students from each of the four higher learning institutions were purposely selected to take part in interviews, making a total of 24 students. In order to obtain gender balance, equal numbers of female and male respondents were chosen from each category of the sample. The dominant

groups of students were youths (60.89%) aged 20-24. More than forty percent of respondents (40.44%) were from remote locations while close to sixty percent (59.56%) were from urban areas/campus.

Field notes from review of strategic rolling plans, HLIs websites, Jamii forum, ICT/E-learning policies, in-depth interviews from 24 students and twelve instructor, observations and filled questionnaires from 225 students formed the main source of data.

In this study quantitative and qualitative methods were used, so as to allow validation of the findings as obtained through the use of different tools that is documentary review guide, questionnaires, observation guide, in-depth interviews and content review of social media guides. For data triangulation, this study used different sources of data that is students, academic faculty and ICT administrators and different data gathering instruments. In order to increase representation and legitimation, respondents' questionnaires schedules was pilot tested at OUT Kinondoni regional center to ten students.

Ethical considerations were observed at all stages of research implementation. This included carrying out research in manner that did not cause embarrassment or betray of trust and self-esteem of research participants, which included explaining the research purpose to research participants, and seek for their consent to; participate in the study, take photos, record conversations and concealing their identity. Chapter four provides study findings and discussions.

CHAPTER FOUR

4.0 RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents findings and discussion of the study on students and their teachers' perceptions about interactive learning through e-learning and how such perceptions relate to strategies employed to enhance interactive learning through e-learning in four selected higher learning institutions in Tanzania.

Data presented in this chapter were collected from a sample representing students, instructors and ICT administrators from four higher learning institutions namely OUT, UDSM, MUHAS and MU. The findings have been presented under headings that align with the research question of the study and a summary of the chapter is presented towards end of the chapter.

4.2 Relative Advantages of E-Learning in Promoting interactive Learning

Faculty Perceived Relative Advantages of E-learning in Enhancing Interactive Learning

Question 8 of the instructors interview guide required academic faculty to explain whether they consider interactive learning through e-learning has relative advantages over traditional forms of teaching and learning in enhancing interactive learning. Findings are indicated in Figure 4.1.

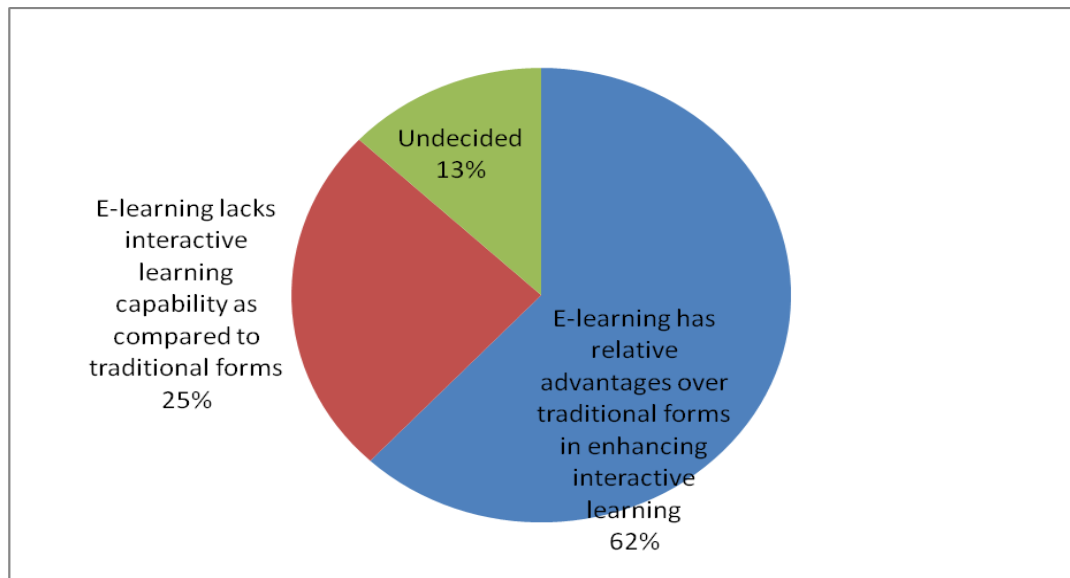


Figure 4.1 : Academic Faculty Perceived Relative Advantages of E-learning.

Most of the faculty members interviewed (62%) perceived e-learning to have relative advantages in enhancing interactive learning over traditional forms of teaching and learning, while 25% perceived it to lack such capabilities, while 13% were undecided.

Some of those who had considered e-learning to lack capabilities in enhancing interactive learning when compared to traditional forms of teaching and learning had their own reservations; in explaining why one academic faculty commented that;

“I find the lecture method most effective for teaching and learning purposes especially at undergraduate level, to me asking students to engage in discussions as a teaching and learning method is a waste of resource and precious time, what is there to discuss about when students lack basic information”.

The view which was supported by another lecture who added that; “Students themselves would opt for the lecture method against interactive teaching and learning through e-learning if given chance to choose”.

The finding indicated, shows that some academic faculty, interpret interactive teaching through e-learning as an activity in which the lecture method and finds no space. It also shows that some lecturers are not well conversant with interactive teaching and learning, since interactive teaching and learning is possible through lecture methods when students are provided opportunities to ask questions or when after a lecture students are given assignments to complete.

These findings find support from a similar study by Oppenheimer (2003) which had looked into application of computers in classrooms for the purpose of promoting interactive teaching. According to Oppenheimer (2003) study findings, little benefit was noted when computers were employed in classrooms and concludes that new technologies are not effective in enhancing interactive learning, in addition they are expensive ventures not worth to be used in classrooms as they will never revolutionize teaching and learning.

This shows that though some of the lecturers consider e-learning to have relative advantages over traditional forms of teaching and learning in enhancing interactive learning and for the reason support integration of e-learning in course delivery, other lecturers hold negative perceptions and would like their institutions to ignore integration of e-learning in teaching and learning.

Students Perceived Relative Advantages of Interactive Learning Through E-learning

Question 8 in students' questionnaire, required students to indicate whether they considered interactive learning through e-learning to have related advantages over traditional forms of teaching and learning in enhancing interactive learning by rating on a scale of 1-5, with 5 being strongly agree and 1 being strongly disagree. Frequencies and percentages of students who responded were calculated for each item and results are displayed in Table 4.1.

Table 4.1 : Students Perceived Relative Advantages of Interactive Learning Through E-learning

Perceptions	Percentage and frequency (n = 225)							
	OUT		MU		MUHAS		UDSM	
	N	%	N	%	N	%	N	%
Strongly disagree	0	0.00	0	0.00	0	0.00	0	0.00
Somewhat disagree	0	0.00	2	3.51	2	3.45	4	7.14
Neither agree nor disagree	3	5.56	5	8.77	4	6.89	4	7.14
Somewhat agree	7	12.96	12	21.05	11	18.97	5	8.93
Strongly agree	44	81.48	38	66.67	41	70.69	43	76.79
TOTAL		100.00		100.00		100.00		100.00

As shown in Table 4.1 most students (73.91%) who indicated strongly agree and somewhat agree considered interactive learning through e-learning to have relative advantages in enhancing interactive learning as compared to traditional forms of teaching and learning, with only 3.53% indicating strongly disagree and somewhat disagree who considered interactive learning through e-learning to lack relative advantage over traditional forms of interactive learning.

Among students who consider e-learning to have relative advantage over traditional forms of interactive learning OUT is leading with (81.48%) as compared to that of UDSM (76.79%), MUHAS (70.69%) and MU (66.67%). Most students who are studying through a distance education mode, have other social and economic responsibilities and since e-learning provides opportunities to learning while continuing with other activities, students find it very useful in meeting their study needs (Mushi, 2006). One OUT student explains how e-learning provides for multi tasking.

“I had joined a conventional educational institution for a degree course but after one year I found the going very tough, as a mother I found out that things at home were not going well, I had no option but to stop my studies and join a distance education degree programme offered by OUT, it took some time to make such a decision as I had been told that studying at OUT is tough. E-learning has made it easier for me to find studying interesting as I find time to share notes and views with study mates while continuing with my economic and social responsibilities”.

Responses from detailed interviews from students show that most students perceive e-learning provides for flexibility in interactive learning, as explained by one student from MUHAS who commented that.

“E-learning makes it possible for students to interact among themselves and support each other through discussions, without any restrictions of time and place it is also possible to interact with our teachers”.

The view shared by another student from UDSM who noted that

“Often the lecture halls are filled up by large number of students to the extent that, some of us find it difficult to grasp what is being delivered by the lectures, e-learning can fill this gap through opportunities it provides in supporting discussions between students themselves and with lecturers even across the globe, at student’s own convenience”.

This implies that most students in both conventional and distance learning institutions perceive interactive learning through e-learning to have relative advantages over traditional forms of teaching and learning in that e-learning has interactive learning capacity that extend not only between students and academic faculty in same institutions

but across national boundaries as well and would like their institutions to incorporate interactive learning through e-learning in their courses.

Findings of this study are in line with a similar study by Tagoe (2012) study which shows that most students both off campus and on campus students (89.7%) considered e-learning to have relative advantages over traditional forms of teaching and learning and support integration of e-learning in their studies.

The findings also consummates those by Nihuka (2010) which show that students at The Open University of Tanzania, associated e-learning with following perceived benefits; more responsibility for their learning, easy access to courses, assignments and course outlines, interactive learning and enhancement of students' learning. Similarly most academic staff felt that e-learning contributes at improved teaching and learning.

It could be deduced that academic faculty and students in higher learning institutions in Tanzania consider e-learning to have potential for interactive learning and that most support use of e-learning for the purposes. For this case it is tempting to anticipate that efforts by higher learning institutions to promote interactive learning through e-learning will be met with great support by students and faculty members.

4.3 Strategies for Wide Adoption of Interactive Learning Through E-learning ***Policies strategic plans learning management system e-learning coordination and training***

In order to find out strategies used by HLIs to encourage students and faculty to use e-learning for interactive teaching and learning purposes the researcher reviewed documents and websites of respective HLIs, conducted interviews with ICT administrators and observed e-learning facilities findings are shown in Table 4.2.

Table 4.2 : Policies strategic plans learning management system e-learning coordination and training

Aspect	Institution			
	UDSM	OUT	MUHAS	MU
Year e-learning was first introduced	1998	2005	2006	2009
The first LMS adopted	WEBCT & Blackboard	Tutor	TUSK	Moodle
Current LMS	Moodle	Moodle	Moodle	Moodle
Year current LMS was adopted	2008	2008	2012	2009
Is ICT policy available	Yes	Yes	Yes	No
Year ICT policy was adopted	2006	2005	2014	-
E-learning incorporated in strategy	Yes	Yes	Yes	No
Training in e-learning conducted	Yes	Yes	Yes	Yes
Type of training	Students - Computer user skills	Students - Computer user skills	Students - Computer user skills	Students - Computer user skills
	Faculty – course upload	Faculty – course upload	Faculty – course upload	Faculty – course upload
		Faculty – course upload		Faculty – course upload
Unit Coordinates E-learning	Centre for Virtual Learning	Institute of Educational & Management Technologies	Directorate of Information and Communication Technology	Directorate of Information and Communication Technology
Funding	Mostly donor funded which includes Finish support	Mostly donor funded which includes Swedish support	Mostly donor funded which includes Swedish support	Mostly donor funded which includes Belgium support

E-learning Policy

As indicated in Table 4.2 most higher learning institutions had developed and institutionalized ICT policy and strategic plans that incorporate e-learning. But such efforts started long after e-learning had been introduced in their respective institutions. For instance UDSM designed its ICT policy in 2006 while it had started to use LMS (Blackboard) way back in 1998 (Mtebe, 2015).

However after noting that the ICT policy is inadequate in meeting e-learning needs UDSM embarked on developing a standalone e-learning policy, by 2013 UDSM had produced a draft document (CoICT, 2013). Similarly MUHAS ICT policy covers e-learning issues but the policy was developed in 2014, five years after it had introduced e-learning. At the time of this study Mzumbe was yet to produce its ICT policy. Among the HLIS covered by the study it is only OUT which stands out as an institution that produced its ICT policy before introducing e-learning, while the ICT policy was introduced in 2004 e-learning was introduced a year later in 2005.

This finding relate with findings from another study by Mtebe and Raisamo (2014) which had investigated perceived barriers to use open education resources in higher education in Tanzania, among aspects investigated was whether higher learning institutions had e-learning policy, findings of the study show that though all the eleven surveyed higher learning institution had e-learning policy, most of these policies were not operational.

E-learning policy is regarded as an instrument that integrates set of decisions, guidelines, laws, regulations, and other mechanisms geared to directing and shaping the production, acquisition, and implementation of e-learning (Jwaifell and Gasaymeh, 2013). Following such observation e-learning policy is an essential document without which

implementation of interactive teaching and learning through e-learning would be difficulty. In this regard the finding that most higher learning institutions had developed and institutionalized ICT policy years after they had introduced e-learning, puts into doubt the commitment of higher learning institutions including leadership commitment in supporting interactive learning through e-learning.

Training Opportunities

As shown in Table 4.2 all HLIs covered by this study had conducted training to faculty members and students, but most of such trainings have tended to focus on technology application with less emphasis on e-teaching and e-learning skills. Part of the reason behind such observations as appears in Table 4.2 is due to reasons that training of the faculty members to teach through e-learning has largely been left to ICT specialists, suggesting an inclination towards technology based teaching and learning as opposed to pedagogy inclined learning which has been noted in all HLIs covered by this study.

At UDSM for instance the e-learning courses are being coordinated by College of Information and Communication Technology (CoICT) personnel. While at MUHAS it is the Directorate of Information and Communication Technology (DICT) for computer application skills, search skills, use of Moodle for interactive learning purposes and for uploading courses, use of Web 2.0 and for research it is the library department, while at MU it is conducted by Directorate of Information and Communication Technology (DICT) and at OUT it is the Institute of Educational and Management Technologies (IEMT).

E-learning Infrastructure

In order to find out type of e-learning facilities existing in HLIs covered by the study, the researcher conducted interviews with ICT administrators, reviewed documents and

websites of each of the HLIs and observed existing e-learning facilities, findings are indicated in Table 4.3.

Findings show that all the surveyed higher learning institutions had basic e-learning infrastructure to support teaching and learning activities and had adopted the Moodle as the official LMS in addition each of the HLIs covered by the study had established computer labs for use by academic faculty and students.

In addition all the HLIs covered by this study were found to have been covered by wireless fidelity (Wi-Fi) a wireless technology for connecting to internet that allows computers and other devices to communicate. At OUT head office, students were observed using their laptops connected to the University wireless internet connection, as well as having in place equipped computer laboratories for OUT students use while MUHAS provides computer and internet access through senior and junior computer laboratories as well as its hostel for undergraduate students. MUHAS also provides Wi-Fi network services to students and academic staff, which is available beyond normal work hours, the services is aimed to reach MUHAS campus buildings including all students' halls of residence.

Mzumbe University had equally made improvements in providing computer and internet services to its students and faculty members, for instance MU had Wi-Fi in all its faculties' main campus at Mzumbe as well as Mbeya and Dar es Salaam campuses.

Table 4.3 : *E-learning Infrastructure in the four Higher Learning Institutions*

Observations	Institution			
	UDSM	OUT	MUHAS	MU
Computers with internet connection for students and faculty use	Available	Available	Available	Available
Placement of computers	Some of the computers placed on high raise buildings which lack ramps	Some of the computers placed on high raise buildings which lack ramps	Some of the computers placed on high raise buildings which lack ramps	Some of the computers placed on high raise buildings which lack ramps
Computer workstation	Rigid chairs and tables which cannot be adjusted	Rigid chairs and tables which cannot be adjusted	Rigid chairs and tables which cannot be adjusted	Rigid chairs and tables which cannot be adjusted
m-learning	In operation	In operation	Being set up through SIDA support	In operation
Official social media	Face book page	Face book page	Face book page	Face book page
Free WiFi services	Available	Available	Available	Available
Video conference facilities	Available	Available	Available	Not available

Leadership style and commitment

In all HLIs covered by the study it was evident that leadership had taken an initiative to drive e-learning, this is evidenced by records of workshops and ICT policy design some of which were chaired by the high level leadership (CoICT, 2013; Olipa *et al.*, 2012; Kisanga and Ireson, 2015). Under their leadership all HLIs have been able to introduce e-learning, include e-learning in strategic plans and initiate ICT policy. In this regard it could be considered that high level leadership in HLIs took an active involvement in e-learning planning and implementation process (Ely, 1999).

Adequate Financing

All the HLIs covered by the study had been able to attract funding for setting up e-learning. However all the HLIs rely heavily on donor funding, for instance as indicated in Table 4.4 it was noted that the Finland had funded some of the e-learning projects at UDSM, while the Sweden had funded OUT and MUHAS projects with Belgium funding MU. It could thus be seen that such sources of funding are not reliable. All the HLIs indicated to require more funding for buying more computers, employ enough ICT administrators to provide support in taking care of e-learning facilities and in providing support to users, to increase internet bandwidth capacity, meet costs for running diesel powered generators. Getting enough funds to meet such needs was considered difficult as one ICT administrator lamented:

“Taking care of e-learning facilities is challenging as we have shortage of a number of things. We need more computers, servers and software, we also need to increase internet bandwidth as internet is just too slow, while electric supply is erratic and for that reason we need generators to keep computers working, to make matters worse some of the computers have broken down and need repair all these

need money which we don't have. These problems hinder our effort to provide support to students and staff who are using the University e-learning facilities”.

4.4 Type of Students Engaged in Interactive Learning Through E-learning

Self motivated independent learners

In order to find out which format of teaching and learning through e-learning students prefer. Question 9 of students' questionnaire required students who had indicated to be engaged in interactive learning through e-learning to mention the teaching and learning format they prefer most by selecting from one of provided responses; limited, moderate, extensive or none. Findings are indicated in Figure 4.2

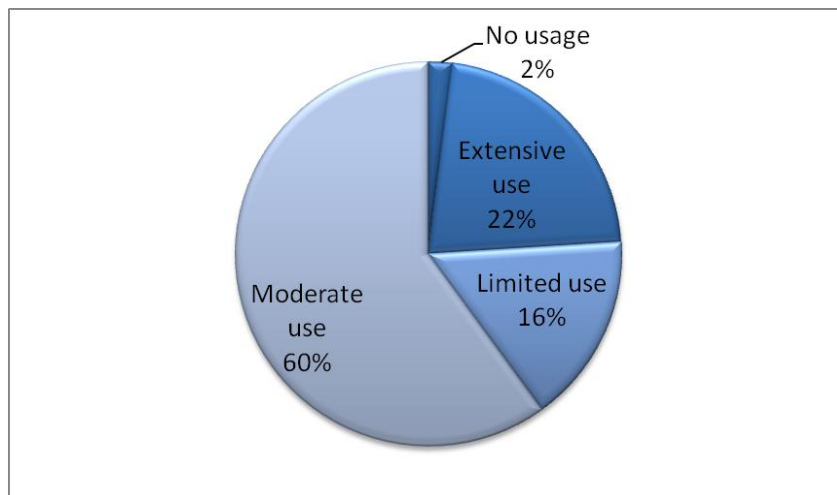


Figure 4.2 : Students' preferred levels of integration of interactive activities in their courses.

Findings show that some students (22%) would like extensive integration of interactive learning through e-learning in their courses, with most of them supporting moderate integration (60%), while a good percentage of students (16%) are in support of limited integration with only a few (2%) indicating to prefer stand alone traditional methods of teaching and learning.

These findings are supported by much similar response from students who took part in in-depth interviews. Most students would like their lecturers in addition to uploading their lecture notes onto the Moodle, to allow them send assignments through their e-mail addresses which should be marked and returned through the same method of communication. Students also want their lecturers to organize and take part in online discussions.

Some of the students mentioned that they would like their teachers to make use of other advanced interactive tools such as video conferencing which they have often heard about, than power point presentations which they have often been exposed to. As video conferencing allow for a situation similar to face to face interactions with students who are in another location. As one student from UDSM commented;

“At one time I attended a discussion session on a political topic by a panel of experts from different parts of the continent which was conducted through video conferencing. The technology is wonderful, I watched when experts were actually discussing through the technology while in different parts of the world. I was thrilled to be informed that very soon the technology will be used as a teaching and learning tool at our University but that has proved to be mere talk, no action”.

When interviewed most lecturers considered interactive learning through e-learning as time consuming and too demanding. Some were of the view that traditional methods of teaching and learning are still relevant even with challenges of large number of students. In explaining why one lecturer commented that;

“At tertiary levels of learning the lecture method has been the main form of teaching and learning and for all these years it has proved its worth, I don't think

we need to change that. The current large class size problem which most high learning institutions are facing can be offset by providing students with supplementary web based learning resources such as lecture notes”.

This finding bears similarities from another study by Kajuna (2014). In this study Kajuna (2009) looked into the level of integration of technology in teaching and learning by faculty academic at UDSM and whether students were using technology for learning purposes. Findings show that few faculty academic staff had integrated technology in teaching. Some teachers used computers to present lessons with students becoming mere observers of how technology is being used. This means the form of interactive e-learning adopted in HLIs involved in this study is the simplest form of blended learning with minimal interaction capabilities, which is supported by only 16% of students as indicated in Figure 4.1.

This shows that, students have been left on their own to participate in interactive teaching activities such as group discussions, threaded discussions and even when they do, they are left to lead the discussions and or moderate the group discussions.

Given the findings that most HLIs are not providing adequate encouragement to their students for them to make full use of interactive learning through e-learning, the group of students which mostly engage in e-learning are self independent motivated learners. This is affirmed by a study by Graff & Davies (2005) which show that highly motivated students frequently utilized e-learning technologies for interaction purposes and for that case scored high and medium passing grades while those who utilized the technologies less frequently scored lowest grades.

Students using accessible affordable and user friendly tools

Question 13 of students' questionnaire asked students to mention the type of e-learning tools they are accessible to and which they utilize for interactive learning purposes. Results are provided in Figure 4.3.

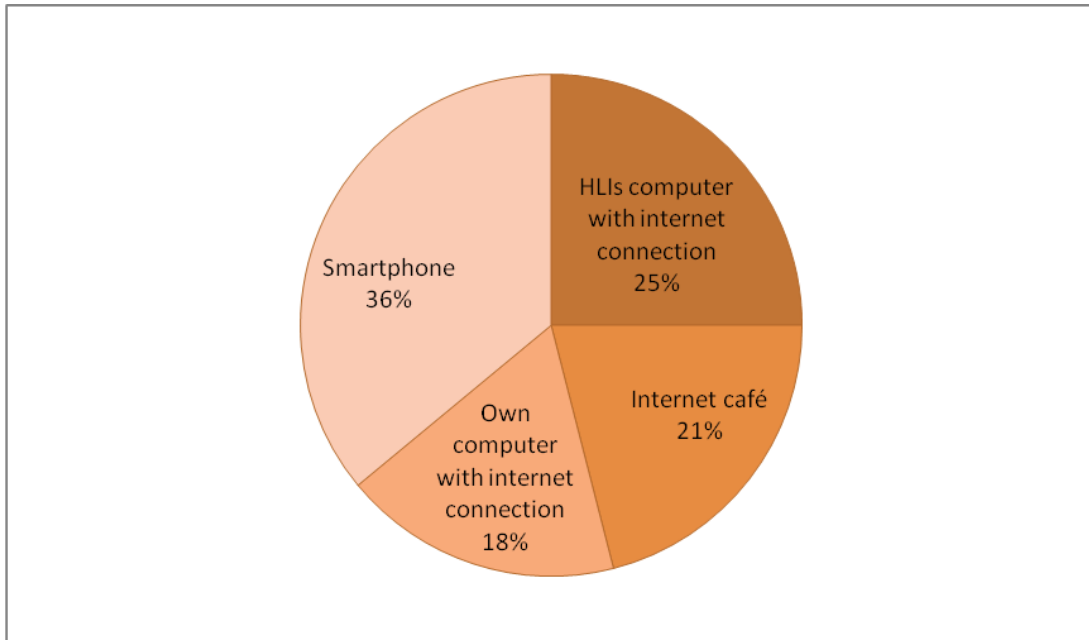


Figure 4.3 : Type of e-learning tools utilized most by students.

Findings show that most students utilize smart phones (36%) followed by the institution internet services (25%) while the rest make use of internet cafes and own computers (39%). This finding was unexpected as most higher learning institutions provide computer with internet connection services free to students. These findings show that some of students are not using their institution computer laboratories. Observations conducted which were also affirmed by information obtained from interviews with ICT personnel support these findings. As one of the ICT personnel explains; “Most students are not utilizing computer laboratories for learning purposes, some use their own lap tops to browse into the web as wireless services are available in various parts of the institution and some use their smart phones”

At Mzumbe University for instance, despite that almost a quarter of computers in the computer laboratories were found to be defective very few students were observed using them.

This study investigated this aspect further, through a follow up question 9 of students' questionnaire schedule which asked students to explain academic purposes for which they utilize their smart phones. Some of the students who were interviewed claimed to utilize their smart phones for interaction purposes with fellow course mates as one student at UDSM explained; "Smart phones come at handy especially at a time close to exams, we often use our smart phones to exchange notes, ask for assistance from fellow students on certain topics/areas

These finding are supported by Mtega *et al.* (2012) findings which show that, students used their smart phones for academic purposes. Among uses included sending SMS (51.3%) and downloading materials (33.3%). While some mentioned to use their phones for taking photo during study activities (10.3%) and only a few (5.1%) used their mobile phones for recording academic activities.

Findings also indicate that smart phones are the technology of choice for most students in remote areas as well as those in urban areas. The reasons for preferences to smart phones over computers are much similar with those found in Mahai's (2014) study. Students find smart phones to have several advantages over computers; they are much cheaper such that most students can afford to own one, they are easier to carry around, easier to use and have more capacity to retain power when charged as compared to lap top computers.

Students Using 2.0 web that meet their Course learning needs

Question 14 of students' questionnaire asked students to mention 2.0 websites they perceived to provide high engaging interactive learning which they use for interactive learning purposes, findings are provided in Table 4.4.

Table 4.4 : Students perceived 2.0 web sites that meet course learning needs

2.0 web used most by students (n= 225)	Percentage
Instagram	40.00%
Twitter	35.55%
You tube	56.40%
Face book	14.64%
Jamii Forum	40.40%
WhatsApp	63.20%
Moodle	14.10

The study findings indicate that WhatsApp (63.20%) was the leading perceived 2.0 web that provide high engaging interactive learning used by students for interactive learning purposes (Most of the time, often and sometimes) followed by You tube (56.40%), Jamii forums (40.40 %), Instagram (40.00%), and Facebook (14.64%).

These findings find support from a study by Irwin, Ball and Desbrow (2012) which looked into students' perceptions of using Facebook as an interactive learning resource at the University of Griffith. Findings of which show that most of the students (n = 135, 78.0%) were positively inclined towards use of the course face book group for interactive learning purposes, than the Facebook page.

This observation best explains the reasons as to why students in this study perceived WhatsApp group (63.20%) and You tube (56.40%) as most useful for interactive learning purposes, as compared to Jamii forums (40.40%) and face book page (14.64%). It is most probably that WhatsApp is best suited to collaborative learners needs than the Facebook page and Jamii forums as it allows students registered in same courses share ideas, notes and learning resources much easier than the Jamii forums and Facebook page which tends to cater for a large number of students across all courses.

The finding also suggests that, the Moodle is a less useful tool for interactive learning purposes. This finding is much similar to a study by Mtebe (2015) which investigated use of Learning Management system Success for Blended Learning in higher learning institutions in Sub Saharan Africa, in which 80% of students had significant problems with features of online chat and discussion forums of the Moodle LMS.

However, the finding in this study that student had considered the Moodle as less useful for interactive learning purposes was unexpected, as all the higher learning institution covered by this study had selected and installed the Moodle as the official LMS. All the HLIs had in addition installed the required infrastructure that supports use of the Moodle which includes computer laboratories with internet connection to be used free by academic faculty and students. This observation seem to support Waddington and Davidson (2010) claim that the Moodle has been purposely selected by HLIs to accommodate faculty inclination towards the passive one way teaching and learning methods.

The findings also show that most students prefer interactive learning and would like their institutions to take adequate measures that would lead to enhanced interactive learning

through e-learning, which includes adoption of interactive tools that support interactive learning needs of students taking similar course.

Students in need of general information about courses offered in HLIs

In order to get in-depth information about the type of students using 2.0 web most the researcher logged into archives of the Jamii forum which is among interactive tools perceived by students to provide high engaging interactive learning. The researcher observed the Jamii forum sites and profiles that were publicly accessible to higher learning students from academic year 2014-2015 and systematically extracted and recorded relevant exchanges. The purpose being to find out type of students using the Jamii forum and type of information, support they seek and or share. Findings are presented in Table 4.5.

Table 4.5 : Use of Jamii Forums for interactive learning purposes

Category	OUT (n = 54)	MU (n = 57)	MUHAS (n = 58)	UDSM (n = 56)	Contributions	
					N	Percentage
Posts	36	15	19	12	82	11.76
Comments	240	114	124	137	615	88.24
TOTAL	276	129	143	149	697	100.00

As indicated in Table 4.5 very few students use the Jamii forums for posting their contributions (11.76%) while the majority mainly responds to the posts (88.24%).

In order to find the type of exchanges taking place in the social media, the posts and responses posted on the Jamii forum, were further analyzed findings are shown in Table 4.6

Table 4.6 : Categories of academic posts and contributions in the Jamii Forum

Students posts on Jamii forum	Percentage				
	OUT (n =54)	MU (n = 57)	MUHAS (n = 58)	UDSM (n = 56)	Total
Enquiries	7.61	5.43	4.90	3.36	5.74
Responses	86.96	88.37	86.70	91.95	88.23
General Information	2.17	3.10	4.20	2.68	2.87
Sharing education resources	0.72	1.56	0.00	0.67%	0.72
Request for Discussions	1.45	0.77	0.70	0.00	0.86
Sharing of experiences	1.09	0.77	3.50	1.34	1.58
TOTAL	100.00	100.00	100.00	100.00	100.00

As Table 4.6 indicates, most students using the Jamii forum use it mostly for the purposes of seeking general information about courses being offered in HLIs (88.23%), which shows that type of students needing general information for course being offered are the main ones using the Jamii forum most. While close to six percent (5.74%) use it for social interaction issues. Which show that the other type of students using Jamii forum are those in need of social presence.

Students who need to share information or discuss academic issues do not find the Jamii forum useful for the purpose and for the reason are not using the forum. This is highlighted by some of the student's comments in the Jamii forum. As one of OUT

student clearly spell this out in the Jamii forum: “Greetings to all, I ‘m taking a post graduate diploma course in education and I would like to get study support from fellow students, as you know unity is strength, if you are interested please let us communicate”.

In addition those in need of using the Jamii forum for discussions and sharing of information are discouraged by lack of support from faculty members and students. For instance one student had put up a question “OUT students where are you?” which attracted no response. Such observation creates unfulfilled demand on part of students wishing to engage in interactive learning through social media.

Other students’ comments on the forum convey similar messages of being discontented with lack of interactive discussions in the forum; with some of them being critical of lack of study support from faculty members, other exchanges included mockery of type of education being offered in various higher learning institutions. It could thus be concluded most students who prefer collaborative learning are not using the Jamii forums, as they find the Jamii forums a less useful tool for the purpose due to low support accorded by their institutions and moderators of the forum.

These observations are consistent with findings of a study by Lwoga (2012) which investigated students’ use of Web 2.0 for learning interactive learning purposes. Findings of the study show that, though students had positive attitude towards use of Web 2.0, actual use was a low. Reasons for low participation included: voluntary participation, determination of the topics for discussion being left to students rather than instructors. Students not encouraged posting their contributions resulting into few posts being posted on the media. This shows students who are required to use social media as part of the

requirement for the course as well as being supported by lectures, make use the media for interactive learning purposes.

Non - physically challenged students

This study observed infrastructural situations in higher learning institutions to determine whether they support ergonomic needs of the physically challenged students when attempting to interact through e-learning findings are shown in Table 4.3.

In all four HLIs some of the computer laboratories have been placed on ground floor which makes it possible for the physically challenged students to use the facilities; however the work station such as table height and leg room were found to have been designed to fit normal students without taking into consideration the ergonomic needs of the physically challenged student, such that students using wheel chairs for example have to force themselves to fit the work station. Some of the computer laboratories in HLIs have been placed in high raise buildings with unsupportive Infrastructures like lack of elevators and or wheelchair ramp thus denying chance for the physical challenged students to access them.

Findings of this study are in line with that of Kabuta (2014) study which shows that the ergonomics needs of the physically challenged students using crutches and wheel chairs for mobility were ignored when designing buildings and e-learning infrastructure as all the buildings, observed lacked ramps and lifts.

4.5 Factors Influencing E-learning Interactivity

Several factors that challenged effective use of e-learning technologies were identified through responses from question 10 of students' questionnaire. They could be categorized

as distance from e-learning facility, social economic factors, e-learning application skills, internet speed, e-teaching and electricity as indicated in Table 4.7 the other is the form of coordination of e-learning as gathered through question 14 and 15 of ICT administrators' in-depth interview schedule.

Table 4.7 : Reasons for inadequate interactive learning through e-learning

Category	N (225)	%
Distance to e-learning facility	87	38.67%
Social and economic roles	33	14.67%
E-learning application skills	34	15.11%
Electricity	128	56.89%
E-teaching	190	84.44%
Internet speed	220	97.78%

As results in Table 4.7 show, most students (97.78%) mentioned internet speed, followed by e-teaching 84.44%, electricity (56.89%) and distance to e-learning facility (38.67%) as leading factors affecting interactivity while a good number of students considered e-learning application skills (15.11%) and social and economic roles (14.67%) as other main influencing factors.

Distance

Most students who had considered interactive learning through e-learning is affected by distance to HLIs e-learning facility also considered alternative facilities such as internet

café and personal computers as unfeasible as gathered through responses from question 19 of students in-depth interview schedule. As one OUT female student from remote location explains:

“I was one of the lucky students who bought a computer from OUT at Tsh. 450,000. But after only three months the computer broke down, that disturbed my studies as I was using the computer for on screen reading of study materials provided on my flash disk, I could not print the materials nor use internet services from internet cafes to discuss and share notes with fellow students as the internet is too slow and prohibitive expensive. I had to go to Dar es Salaam to get photocopies of print material from colleagues”.

This finding is consistent with Jagboro (2003) study which revealed that students were unable to access e-learning facilities due to felt distance from student's homes and workstations.

Electricity

Electricity was considered to be among major influences of perceptions about interactive learning through e-learning with 56.89% considering electricity among such influences. These results bears some similarities with another study by Qureshi *et al.* (2012) that the most significant barrier to e-learning experienced by students was electricity failure and English proficiency. This finding is supported by Msyani (2013) who notes that Tanzania has been experiencing erratic supply of electricity even then by 2013 electric coverage in the country was reported to be only 18% with only 2% of rural areas and 14% of urban areas.

Internet speed

The finding that internet speed is perceived to be the main leading main barrier as mentioned by 97.78% of student respondents in Table 4.4 was unexpected since most higher learning institution bandwidth could be regarded as generally good as each of the higher learning institution covered by the study had bandwidth capacity of more than 30 Mbps. In order to get a much deeper understanding of this aspect students through follow up question 20 of students questionnaire were asked to mention problems they faced while attempting to interact through e-learning.

Most students claimed that Wi-Fi is only available near administrative buildings, lecture halls and few spots as one student from UDSM explains;

“I stay at Mabibo hostel, luckily the University provides Wi-Fi services to cater for students living in the hostels. Even then, internet is so slow that the only place where reception is a bit strong is the area near the water tank, causing us to pool around the area”.

The same problem is echoed by students in all HLIs institutions covered by this study; one student from OUT cited distance from her place of residence in remote location as a barrier she explained problems she was facing:

“I live close to Kisarawe when I am in need of e-learning services it is convenient for me to go to Buguruni and pay for the service at an internet cafe where I am required to pay Tsh. 1,000 for an hourly services than to go to my study center or head office in Kinondoni for free internet services, as getting a bus back home from the center is difficult especially in the evening. Even then internet at the internet cafes is so slow that I have to pay additional Tsh. 1,000 if I am downloading a document”.

While some of the students at MUHAS lamented that “The internet services at our University is so slow that most of us have opted for Tigo, Vodacom and Airtel services, for instance for a mere Tsh. 500 one could get internet services the whole week”

Social economic factors

Research findings reveal that 14.67% of student respondents consider social economic factors influence their perceptions towards adoption of e-learning for interactive learning purposes. As one OUT female student from remote location commented:

“I have to travel to my center located in town for studying purposes. Often I find downloading and on screen reading difficult even when I succeeded the writings look so tiny, this is challenging on my part. Often I find myself forced to go to town to seek for assistance from fellow students as well as utilize the center internet facilities but getting enough money for fare expenses is challenging, to make matters worse my husband insists that I should not stay in a guest house claiming that as bad practice for a married respectable woman, so to please my husband I often stay at my old college friends’ house where I have to share a room with her children whenever I go for studies in town”.

This finding share some similarities with Ruhwanya, Mbwette and Mushi (2012) finding who also note that HLIs are introducing e-learning while there exist a huge digital divide in Tanzania along gender, social economic position, and distance from urban centers and cautions that if this is overlooked it might lead to choices of technologies that are not functioning as effective as expected.

Academic faculty workload

Question 20 of faculty interview schedule asked faculty members to explain if they face any difficulties or worries when attempting to utilize e-learning for enhancing interactive

learning purposes. Response to the question revealed a number of difficulties which explain reasons behind inadequate enhancement of interactive learning achievements through e-learning being realized:

Most of faculty members interviewed admitted not to have transformed their courses to fit interactive learning requirements. Inhibiting factors mentioned include heavy workload which also plays a role in de motivating faculties to teach through e-learning. Course design for e-learning is regarded by faculty members to be a demanding task as faculty members are required to transform their lecture notes or print course materials into interactive web based learning materials as well as mark students' assignments. As one of the faculty members explains:

“Course design for e-learning is too demanding it requires one to be dedicated only for such role, but here we have other tasks to accomplish which includes marking students assignments which by itself is quite challenging...”

Such observation find support from Beggs (2000) study who observes that it takes about 15-20 hours a week to develop multimedia lectures and 150-200 hours to convert one course to multimedia which Mbenna (2000) regards to be a difficult task than even writing a book. Faculty need to be ready and motivated to accomplish such a task. In addition to course writing, faculties are required to mark tests and assignments, which is another demanding task.

For instance it is reported by Mnyanyi, Bakari and Mbwette (2010) that at OUT it was common practice for instructors to mark more than 2,000 scripts. Similarly it is reported that at MUHAS one lecture at the Biochemistry was required to teach a class of about 350 first year students as well as post graduate students (Olipa *et al.*, 2012). This situation has

not improved much as number of students registered for course continues to grow while facilities remain much or less the same.

The resulting workload affects faculty motivation to teach through e-learning. Lindsay (2004) stresses the need for institutions to encourage faculty to appreciate teaching through e-learning. He argues that in order for faculty to appreciate technology led e-course delivery, their contributions to such efforts should be recognized and goes on to predict that, if this is ignored, some faculty members may resist technology led instruction, with some of the resistance manifested through unionization and strikes.

Training in e-learning application skills

In order to find out the type of training covered and perceived effectiveness of such trainings in enhancing academic faculty capabilities to take part in discussions, chat sessions and communication with students. The researcher asked students through question 6 of the students' interview schedule to mention whether they had attended any training in computer user skills, findings to this question are provided in Figure 4.4

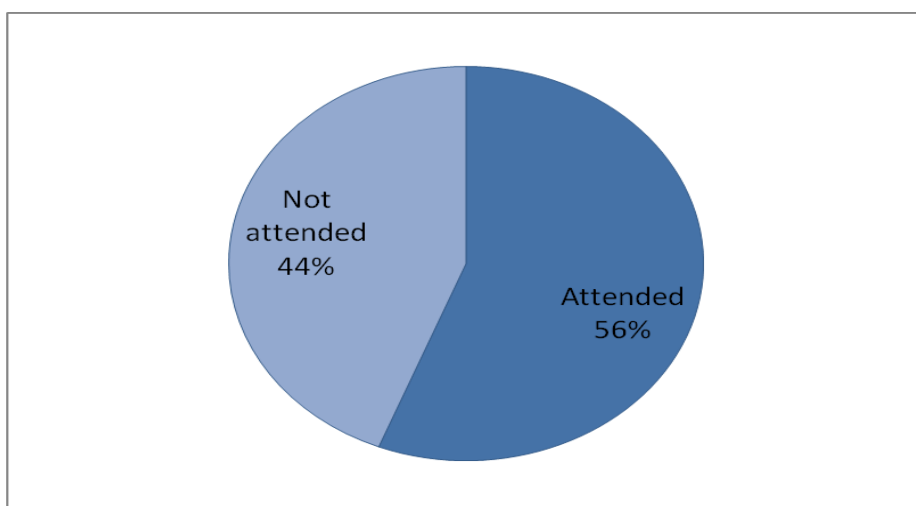


Figure 4.4 : Students who attended course on computer user skills

Fifty six (56%) of the students who participated in the research considered themselves to have attended training in computer application user skills for e-learning, while 44% have not attended such sessions. Documentary reviews from the institutions' websites as well as interviews with students revealed similar findings. They indicated that training in computer user skills have been offered to all students in all the four higher learning institutions covered by the study. For instance the OUT, which has students in various parts of the country and beyond has offered such training to students through its internet centers in the institution's regional centers.

Training offered in all institutions to students included how to: navigate through a course document using LMS, access other related learning resources, submit assignments and attempt online quizzes.

In-depth interviews with students who claimed to have attended such trainings revealed differing contents of areas covered among institutions. While some of the students from UDSM mentioned training in using some of the programmes that included Microsoft excel and Microsoft word, training in using their institution's LMS was not offered, as one student from the UDSM explained.

“One of our lecturer has taught us how to use Microsoft excel as one of the requirement for the course and most of the lecturers use power point facilities to present lessons, only recently we have been given passwords to lodge into the university Moodle LMS but minus training, some of us have been able to lodge into the LMS, some had to be helped by colleagues while some are still struggling. Contained in the LMS are mainly course outlines and some notes”.

Students from other HLIs including OUT, MU and MUHAS mentioned that the training contents covered included: how to use e-learning tools to navigate in the LMS, access learning resources, how to take part in online chat sessions and how to submit assignments.

Similarly academic faculty members were asked, in follow up question 10, to explain whether they have attended any training in course design for interactive learning through e-learning and if they consider such training adequate. Findings are shown in Figure 4.5

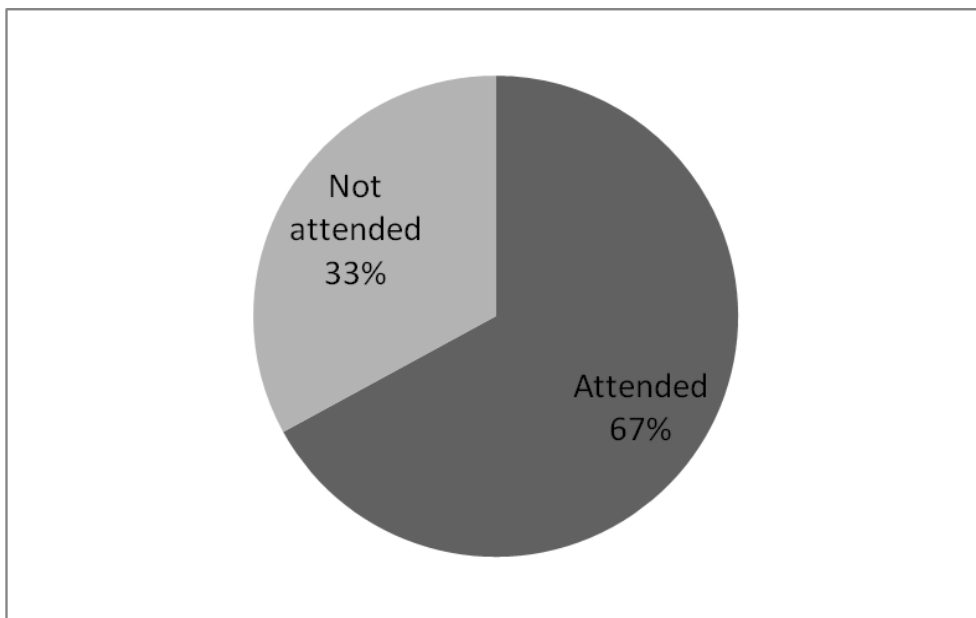


Figure 4.5 : Academic faculty who attended course in e-teaching

Findings show that all the four HLIs have conducted training for their students and academic faculty. With 67% of faculty considered to have attended training in e-learning course design for interactive learning. While 33% of faculty members considered themselves not to have attended such training. However in-depth interviews revealed that such training mainly covered how to upload their courses onto the LMS. Those who indicated not to have attended such training mentioned poor organization of the trainings as the main reason that discouraged them to attend such sessions.

Elaborating this view one of the academic faculty commented that “Some of those required to train us on how to upload our courses onto the Moodle platform are young junior ICT staff, this by itself is discouraging let alone the expectation that e-teaching is more demanding than traditional teaching.” It could be noted that training on how to use e-learning as the main training package tends to focus on the technology itself, neglecting other equally important aspects such as information processing skills, e-teaching and e-learning skills.

This focus on computer application user skills to students and academic faculty, suggest that HLIs regard application skills in using e-learning technologies is all that is required for students and academic faculty to get engaged into interactive teaching and learning.

Another pedagogical aspect ignored, are adult teaching and learning requirements when training students. One such aspect is the tendency to expect elderly students to register and take part in mixed age classes. As a result some of the elderly students decide not to register themselves for the course as one student from OUT explained.

“I don’t know how to use computer let alone internet, at my age I cannot attend computer classes offered at my institution which often is comprised of youths, how would I cope with the speed of youngsters who seem to adapt more quickly with the technology, definitely I will be left out and feel a nuisance to teachers”.

When asked to explain how they cope with studies without computer user skills. Some said they join face to face tutorial classes offered by some individuals and in addition form discussion groups. But when they are required to register or check their examination results which can only be done on line, they seek for assistance from café attendants who require them to pay additional Tsh. 1,000 for the purpose.

These findings are much similar to a study by Marwa (2010) which had noted that adult learners in HLIs feel discomforted when they find themselves in a mixed age class with much younger students. The same problem is noted when older faculty are required to be taught by junior ICT staff.

This shows that training conducted in higher learning institutions as part of the strategy to enhance interactive learning, have not adequately considered students and academic faculty knowledge and skill gaps as well as adult learning characteristics. Trainings that do not meet the described requirements cannot adequately provide opportunities for students and academic faculty to participate effectively in interactive teaching and learning through e-learning.

Most of the faculty members in higher learning institutions have mainly been trained or exposed to traditional forms of teaching and learning with most of them not trained in e-teaching and for the reason lack e-teaching skills. So they should not be expected to consider the pedagogical requirements of e-learning such as learning theories including incorporating interactive learning activities into their courses when designing their courses.

Trainings conducted have not been targeted to address this core problem, as most of the training have tended to focus on computer user skills including how to upload courses onto LMS. While training in teaching through e-learning has received less attention. This is compounded by the fact that all higher learning institutions continue to recruit teaching staff exposed to or trained in traditional teaching learning methods (Babyegeya, 2006).

It should thus be expected that, this problem will continue, thus placing unfulfilled demand on part of academic staff when trying to interact with students through e-

Learning technologies. Such unfulfilled demand is reflected in course material prepared for e-learning some of which lack interactive learning activities. This all explains why students and faculty members are discontented with their institutions effort to enhance interactive learning through e-learning.

E-learning course design

In order to find out if academic faculty members are skilled in course design and whether such requirement has been fulfilled in HLIs, faculty members, through follow up question 11 of the faculty interview schedule were asked to mention the format into which they design their course material for uploading onto the Moodle LMS.

Most lecturers in conventional HLIs mentioned that they simply upload their lecture notes in Portable Document Format (PDF) onto the Moodle e-learning platform. That is the same lecture notes they had previously delivered to their students during face to face sessions. As one lecturer clearly explains;

“Due to large number of students the combination of interactive teaching approaches such as seminars where tutor led small group discussions are held is not viable. The option left is in making lecture notes available onto the Moodle LMS, so that students can review them at their own time after the face to face sessions”.

Similarly lecturers from OUT (which offers most of its courses through a distance learning mode) also indicated to uploading course materials designed in lecture format onto the Moodle LMS.

In only a few instances faculty members ask their students to watch a video or graphic. This shows that some of the faculty members support use of e-learning but mostly to support traditional forms of teaching and learning. It is most probably that they find course design for interactive learning difficult and time consuming and or that they are not well trained in course design for collaborative learning or even that they hold a negative perception to collaborative learning.

Such observations indicate that designing e-learning programmes that meets interactive learning needs of students is a complex issue which needs support from all stakeholders. As Fee (2009) cautions, design of interactive learning courses through e-learning and its application cannot simply be achieved through insisting that, those who believe that collaborative forms of interactive learning are right and everybody else who is against such view is wrong, but rather by involving the very groups of persons/individuals as stakeholders for the purposes discovering the potential of e-learning for themselves.

This requires designing of e-learning programme that takes into consideration students learning preferences, and most important it should include demonstrated capability that e-learning leads to enhanced interaction and quality learning. This requirement is of most importance as it contributes at committing stakeholders into interactive teaching and learning through e-learning, including those who are yet to be convinced of the benefits e-learning provides but simply adopt and use e-learning to appease colleagues or look modern (Fee, 2009).

It is important to understand that provision of more e-learning technology features and opening up of e-learning facilities for academic faculty and students use by itself will not lead to enhanced interactive learning, further steps to integrate e-learning into course

design, which includes emphasizing learning theory as one of key concepts in course design is very important.

Coordination of e-learning

As indicated in Table 4.6 coordination of e-learning in all HLIs covered by the study has largely been left to ICT specialists, suggesting an inclination towards technology based teaching and learning as opposed to pedagogy inclined teaching and learning.

At the UDSM for instance the e-learning courses are being coordinated by College of Information and Communication Technology (CoICT) personnel. While at MUHAS it is the Directorate of Information and Communication Technology (DICT) for computer application skills, search skills, use of Moodle for interactive learning purposes and for uploading courses, use of Web 2.0 and for research it is the library department, while at MU it is conducted by Directorate of Information and Communication Technology (DICT) and at OUT it is the Institute of Educational and Management Technologies (IEMT).

A related study conducted by Johnson (1992) titled “Advancing by degrees: Trends in master’s and doctoral programs in educational communications and technology” notes similar concerns as findings show that less than two percent of courses related to technology in HLIs are linked to theory for the reason that most of the issues related to course design have been left to the HLIs ICT departments.

The tendency to leave e-learning coordination to ICT personnel raises suspicions, suggested by Lindsay (2004) that some of HLIs adopt e-learning just to appease their students or simply to look modern. This also explains why some of the students and

faculty members feel that their institutions are not doing enough to encourage adoption of e-learning for interactive learning purposes in their institutions. This worry is further strengthened by the observations made by some of the students who noted a slow response in implementation of e-learning by their institution.

For instance though MUHAS, had set up the Students Academic Register System (SARIS) for posting examination results it did not right away make use of it, instead continued to post examination results the old way, by placing them on students' notice board only to post them weeks later on the SARIS. Students could not understand the need for the SARIS then, some even doubted their institution intention in installing the system, suspecting that it was doing so just to look modern.

4.6 Potential for Adoption of E-Learning

Global influence

In order to establish what had influenced students into perceiving e-learning useful for interactive learning purposes and quality learning. Students were asked through question 7 of the students' interview schedule to explain what had prompted them to use e-learning for interactive learning purposes Findings are indicated in Figure 4.6

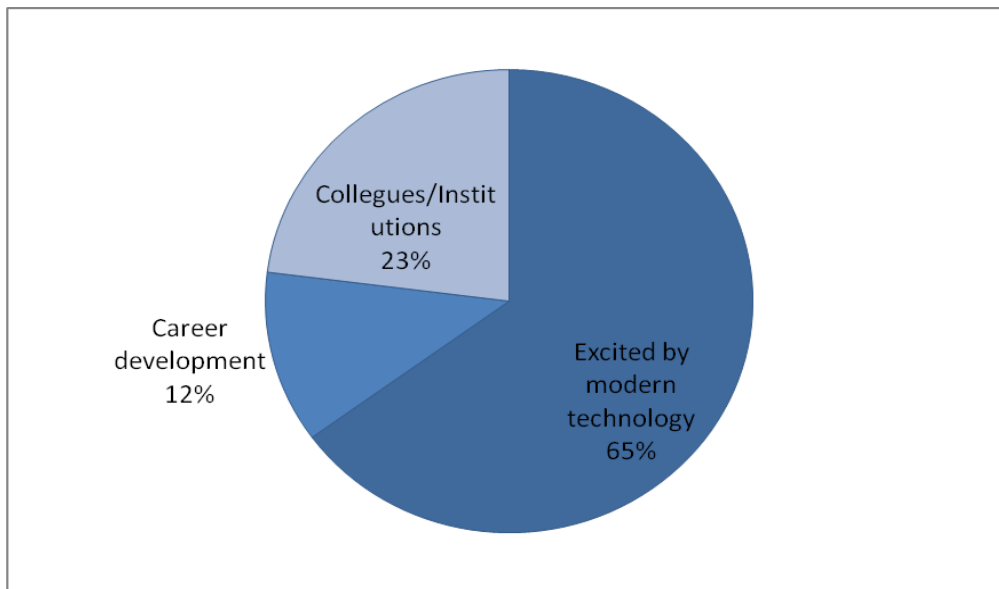


Figure 4.6 : Students' perceived influences in using e-learning for interactive learning purposes by students

Findings show that more than sixty percent (65%) of students indicated to have been influenced into interactive learning through e-learning by the excitement new technology bring with, while 23% have been influenced by their colleagues, some of the students 12% mentioning that they had been influenced by perception that it contributes to their career development. This shows that most students have been influenced into using e-learning for interactive learning purposes by the excitement caused by new technology. This group comprises those influenced into interactive learning through e-learning by their colleagues, those who perceive interactive learning through e-learning leads to quality learning but also includes students who are curious about the technology and want to try it out.

In order to get academic faculty responses to what had influenced them to use e-learning for interactive teaching purposes. Question nine of academic faculty interview schedule required faculty members, to explain what prompted them to use e-learning for interactive teaching purposes. Findings are indicated in Figure 4.7.

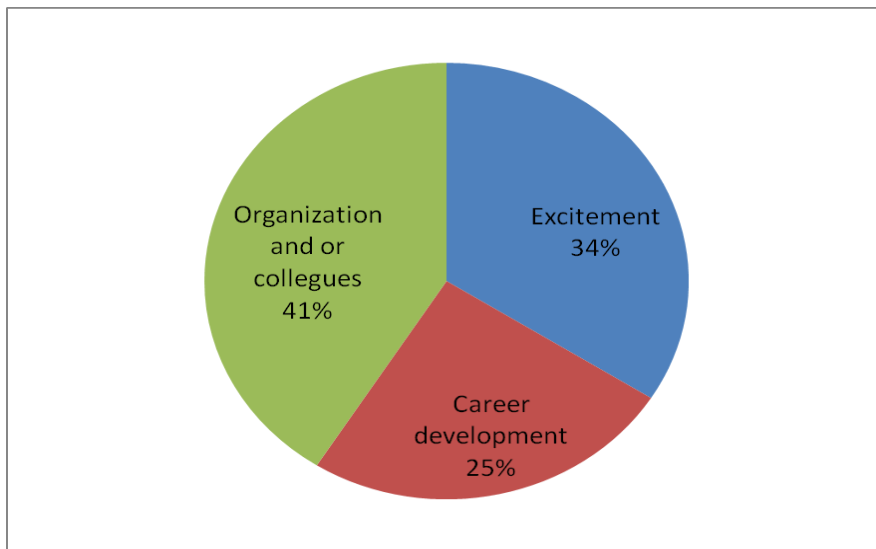


Figure 4.7 : Faculty perceived influences in using e-learning for interactive teaching purposes

Findings show that a good percentage of faculty members (41%) have been influenced to use e-learning for teaching learning purposes by their institutions and or colleagues, while 34% have been influenced by the excitement in using new technology for teaching learning purposes, 25% have been influenced by the belief that use of e-learning for interactive teaching purposes leads to career development.

Findings described in this section indicate that students and faculty members hold differing perception on use of e-learning for enhancing interactive learning. Some perceive enhanced interactive learning through e-learning leads to quality learning while others seem to be skeptical but would like to try it out, also in the group are those who want to appease their colleagues and or clients by taking the decision to use interactive teaching and learning through e-learning even when they lack the skills or commitment required for effective use of the technology.

These results were consistent with the study by Schaper and Pervan (2004) which showed that success in students' utilization of e-learning for study purposes was very much related

to influencing factors which leads to adoption and use of e-learning by faculty and students.

In this regard such differing influencing factors show that not all who adopt and use e-learning do so out of conceived perception that its use would lead to interactive learning. Following such conceptualization influencing factors leading to faculty and students adoption of e-learning must be considered when designing strategies and plans that are aimed at enhancing interactive learning through e-learning strategies. The purpose of inclusion of such influencing factors is to win over the trust and commitment of all stakeholders, which includes students, towards implementation of interactive learning through e-learning.

It should be noted that the main influencing force is technological changes as noted by Mgaiwa (2009) who attributes e-learning development mainly to global factors rather than national policies alone. The fast pace of technological development the world is witnessing has greatly improved communication between individuals and organizations not only within national boundaries but also across. So whatever is taking place in another part of the globe is quickly transmitted to other parts of the globe. E-learning is among emerging new technologies that are fast spreading across the continent, creating high expectations to some of the individuals and institutions across the globe.

New learning needs

Furthermore the study attempted to investigate the extent to which faculty members and students perceived e-learning useful for meeting learning requirements brought about by technological development. In order to do so, Academic faculty and students through question 4 in students' interview schedule and part two of question 8 of faculty interview

schedule were asked to mention whether they consider e-learning meets interactive learning challenges students face than when traditional forms of interactive learning are used. Findings are shown in Table 4.8.

Table 4.8 : Lecturers and students who perceive e-learning meet interactive learning needs

Category	Total Number	Yes		No	
		N	%	N	%
Students	225	35	15.56%	190	84.44%
Academic Faculty	12	4	33.33%	8	66.67%

Findings show that 85% of students perceived interactive learning through e-learning most suitable in meeting their learning needs. Only 15.56% considered that interactive learning through e-learning does not adequately meet current learning needs. In explaining why they consider e-learning provides for meeting current interactive learning needs, some of the students mentioned the major reasons to be the opportunities it provides in obtaining up to date information and easy sharing of learning resources as well as exchanging views which cannot adequately be achieved through traditional forms of teaching and learning.

Much similar findings were obtained from academic faculty members. Findings in Table 4.8 show most faculty members felt that, without interactive learning through e-learning they would not adequately cope with teaching and learning demands (66.67%). Only a few (33.33%) considered that they could still cope with teaching and learning demands without interactive learning through e-learning.

In this regard most faculty members and students regard interactive learning through e-learning as a means to cope with teaching learning demands created by the rising number of students which is not in line with existing teaching learning facilities as well as in meeting current learning needs brought about by fast pace of technological development.

These findings consummates those by Nihuka (2010) which show that student at the Open University of Tanzania, associated e-learning with following perceived benefits; more responsibility for their learning, easy access to courses, assignments and course outlines, interactive learning and enhancement of students' learning. Similarly most academic staff felt that e-learning contributes at improved teaching and learning.

This shows that the fast pace of technological development coupled with increasing number of students which is not in line with existing facilities has created new learning needs. These new learning needs are pushing HLIs into developing new courses, revise existing courses as well as find new methods of education delivery that would meet the challenges. Most academic faculty and students perceive interactive teaching and learning through e-learning as the most viable solution to the problem. In this regard the new learning needs brought about by fast pace of technological development present as potential for adoption and further development of interactive learning through e-learning by HLIs.

New tools

Question 13 of students' questionnaire asked students to mention the type of e-learning tools they are accessible to and which they utilize for interactive learning purposes. Results are provided in Figure 4.8.

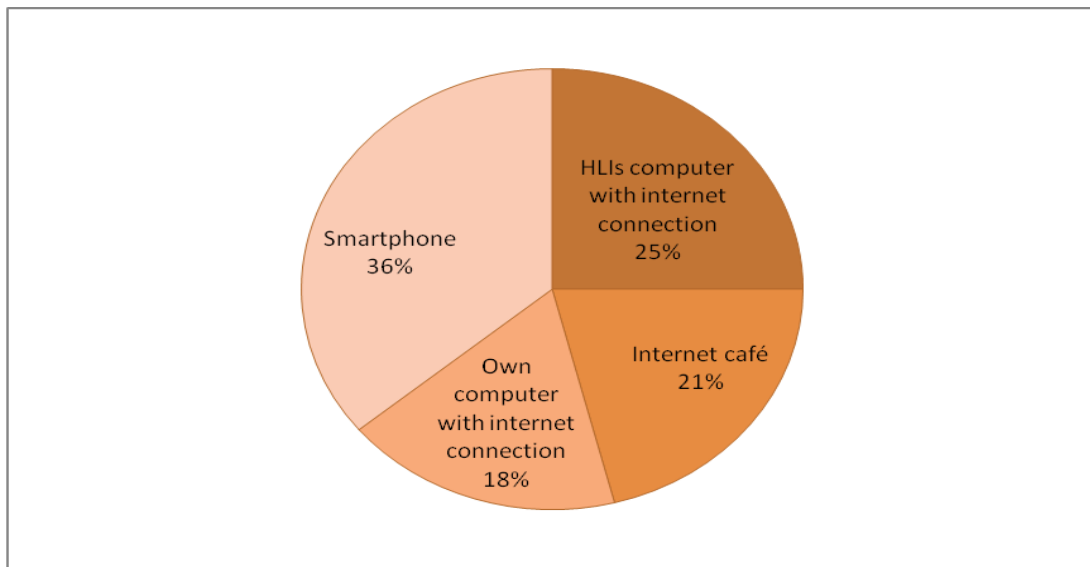


Figure 4.8 : Figure 4.8. Type of e-learning tools utilized most by students

Findings show that most students utilize smart phones (36%) followed by the institution internet services (25%) while the rest make use of internet cafes and own computers (39%). This finding was unexpected as most higher learning institutions provide computer with internet connection services free to students. Interviews with ICT personnel also support these findings. As one of the ICT personnel explains; “Most students are not utilizing computer laboratories for learning purposes, some use their own lap tops to browse into the web as wireless services are available in various parts of the institution and some use their smart phones”

At Mzumbe for instance, despite that almost a quarter of computers in the computer laboratories were found to be defective very few students were observed using them. In order to investigate this aspect further, follow up question 9 of students’ questionnaire schedule asked students to explain academic purposes for which they utilize their smart phones. Some of the students who were interviewed claimed to utilize their smart phones for interaction purposes with fellow course mates especially when close to exams, such use includes exchange of notes, asking for assistance from fellow students on certain

topics/areas, support to information resource link and general information regarding studies.

These finding are supported by Mtega *et al.* (2012) study findings which show that, students used their smart phones for academic purposes. Among uses included sending SMS (51.3%) and downloading materials (33.3%). While some mentioned to use their phones for taking photo during study activities (10.3%) and only a few (5.1%) used their mobile phones for recording academic activities.

Findings also indicate that smart phones are the technology of choice for most students in remote areas as well as those in urban areas. The reasons for preferences to smart phones over computers are much similar with those found in Mahai's (2014) study. Students find smart phones to have several advantages over computers; they are much cheaper such that most students can afford to own one, they are easier to carry around, easier to use and have more capacity to retain power when charged as compared to lap top computers.

In order to gather information on e-learning technology preferred most by academic faculty, faculty members through question 14 of the instructor interview schedule were asked to mention type of technology or tool they most prefer for teaching learning purposes. Findings show that most faculty members prefer the computer with internet connection, in explaining why one academic faculty explains: "The computer is a wonderful technology it combines what other technologies offer, all at one time, text, sound, pictures graphics, and video. What is more one can easily share such rich information through internet across the globe".

This finding bears some similarities with Nyandara's (2012) findings which show that most instructors at OUT preferred computer to other technologies. These findings show that while students prefer most emerging new technologies and tools such as smart phones academic faculty prefer computers with internet connection.

However it is possible that such preference has been influenced by availability of the technology. It is possible that the faculty members have been exposed much more to computers with internet connection as the main form of teaching and learning technology than any other technologies. This suspicion finds support from Nyandara (2012) observation that technologies such as television and radio have never been used as teaching and learning tools in higher learning institutions in Tanzania. For the same reasons most students especially those in remote locations find computers with internet connection not within reach. As a result tend to support new tools and technology such as mobile technologies, which can be operated even in areas with no electricity for that case overcoming the geographical distance and large class size. Such emerging new technologies have potential adoption of e-learning by students located in remote location.

Improved internet connectivity

Findings revealed that all the four HLIs covered by this study had installed computers with internet connection as well as making Wi-Fi available free of charge to students and academic faculty. However, most students found the Wi-Fi reception to be poor, as it could only be accessed near administration buildings and a few areas. The available option is to use the services provided by mobile phones such as Tigo, Airtell and Vodacom, a mere Tsh. 500 can be used for the whole week.

Use of Internet café and personal computers as an alternative to Internet facilities which could minimize the impact of the felt distance from students' homes or workplaces to higher learning institutions facilities was also found to be unfeasible. As one OUT female student from remote location commented:

“I was one of the lucky students who bought a computer from OUT at Tsh. 450,000. But after only three months the computer broke down, that disturbed my studies as I was using the computer for on screen reading of study materials provided on my flash disk, I could not print the materials nor use internet services from internet cafes to discuss and share notes with fellow students as the internet is too slow and prohibitive expensive. I had to go to Dar es Salaam to get photocopies of print material from colleagues”.

This finding is consistent with Mtebe and Raphael (2013) study which revealed that students were unable to access multimedia enhanced courses properly via internet due to bandwidth difficulties and cost. While over two thirds (68%) could not play video clips, or animations properly due to slow internet speeds.

It is expected that this situation is going to change for the better due to rolling out of the marine cable in many parts of the country which provides higher internet bandwidth capacity (Kafyulilo, 2015). Already signs for such development were beginning to show, documentary reviews and interviews with ICT administrators show that most of the HLIs were at a stage of getting connected to the marine cable. Developments reached in improved internet connections are indicated in Table 4.9.

Table 4.9 : Higher Learning institutions internet bandwidth capacity

Higher learning institution	Bandwidth
UDSM	155 Mbps
MU	40 Mbps
MUHAS	40 Mbps
OUT	45 Mbps

As shown in Table 4.9 the internet bandwidth capacity at UDSM was reported to be 155 Mbps followed by OUT with 45 Mbps, while MUHAS and MU had 40 Mbps each, these institutions had high bandwidth because they were connected to high-speed national fiber optic backbone.

The noted bandwidth capacity in the four higher learning institutions under study is comparatively higher than it was in the past. Mtebe and Raisamo (2014) note that by 2014 it was only UDSM which had higher band width (155 Mbps) all the remaining HLIs had bandwidth below 30Mbps. These improvements are the result of completion of the construction of the broad band infrastructure by Tanzania Telecommunication Company Limited (TTCL) in the country which has led to increased internet bandwidth capacity at lower cost through the country (Esselaar and Adam, 2013).

At the same time Tanzania Electricity Supply Company (TANESCO) which is the main producer and supplier of electricity in Tanzania is expanding its capacity in providing stable and more electricity supply by increasing generation and construction of a distribution network which will curb inefficiency in distribution. Electricity generation in Tanzania by 2014 was considered to be 1583 MW, by the time of this study there were ongoing projects mostly gas powered which were expected to increase electricity generation up to 2,436 MW by end of 2017, among other initiatives is rural

electricitification mainly through cheap and affordable solar power (Msyani, 2013; Peng and Poudineh, 2016). The success of such efforts will lead to increased internet bandwidth capacity, more reliable and stable electricity supply which translates to potential for adoption of e-learning by HLIs.

4.7 Chapter Summary

This chapter provided findings of the study and discussions. The study showed that most HLIs academic faculty and students considered interactive learning through e-learning to have relative advantage over traditional forms of interactive learning. Even then it was noted some lectures still considered the traditional lecturer method more effective than interactive learning through e-learning. The study revealed that strategies used to effect wide adoption of technology among academic faculty and students followed linear steps of implementation; starting with training faculty members and students in basics of the technology and setting up of required infrastructure while information processing skills and e-teaching and ICT policy development received less attention. Peer influence, study groups, excitement caused by new technology and career development were found to potentially influence students and faculty into positively perceiving interactive learning through e-learning useful. It was found out in this study that, students engaging in interactive learning through e-learning were mostly; Highly motivated independent learners, students using accessible, cheap, mobile and user friendly technologies, student in need of general information about courses. In this study however, HLIs students were disappointed with their institutions Moodle e-learning platform because it did not provide high engaging interactive learning opportunities. Influencing factors were found to be lack of skill in e-learning and e-teaching, distance to e-learning facilities, poor internet speed and lack of teacher support. Chapter five provides conclusion and recommendations.

CHAPTER FIVE

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary, conclusion and recommendations of the study on teachers and students perceptions about e-learning for enhancing interactive learning in higher learning institutions in Tanzania.

5.2 Summary of the Study

This study was designed and conducted to investigate the challenges of enhancing interactive learning through e-learning, by investigating students and teachers' conceptions or perceptions when using e-learning for interactive teaching and learning purposes. The reviewed literature had indicated limited research that examines the value which lecturers and students put in interactive learning when engaged in teaching and learning through e-learning, this study was aimed at filling this gap.

The premise of this thesis was that, understanding teachers and students' perceptions about enhanced interactive learning through e-learning would help higher learning institutions to develop strategies that might be incorporated in their programmes to buy in the commitment of all stakeholders, including instructors and students, in developing and implementing e-learning programmes that have high potential to enhance interactive learning.

The objectives of the study were to;

1. To investigate faculty and students perceived relative advantage of e-learning over traditional forms of teaching and learning in promoting interactive learning and the quality of learning in higher learning institutions in Tanzania.

2. To examine strategies employed by higher learning institutions, instructors and or students to enhance interactive learning through e-learning in Tanzania.
3. To determine the type of students in higher learning institutions in Tanzania who engage in e-learning for interactive learning purposes.
4. To identify factors influencing interactivity in e-learning for interactive learning in Tanzanian higher learning institutions.
5. To identify potentials that encourages adoption of e-learning for interactive learning in Tanzanian higher learning institutions.

The study was conducted between 27th October 2015 and 23rd January 2016 in four higher learning institutions in Morogoro and Dar es Salaam regions. The population for the study included students, academic faculty and ICT administrators in the four HLIs in Tanzania. The sampled population for the study included 225 students (113 males and 112 females) who filled questionnaires, three instructors from each of HLIs who were purposely selected to make a total of twelve instructors, four ICT administrator one each from the four HLIs covered by the study, six students from each of the four higher learning institutions making a total of 24 students who took part in interviews. In order to obtain gender balance, equal numbers of female and male respondents were chosen from each category of the sample. The dominant groups of students were youths (60.89%) aged 20-24. More than forty percent of respondents (40.44%) were from remote locations while close to sixty percent (59.56%) were from urban areas/campus.

Field notes from review of strategic rolling plans, HLIs websites, Jamii forums, ICT and E-learning policies, in-depth interviews from 24 students and twelve instructor, observations and filled questionnaires from 225 students formed the main source of data.

In this study quantitative and qualitative methods were used, so as to allow validation of the findings as obtained through the use of different tools that is documentary review guide, questionnaires, observation guide, in-depth interviews and content review of social media guides. For data triangulation, this study used different sources of data that is students, academic faculty and ICT administrators and different data gathering instruments. In order to increase representation and legitimation, respondents' questionnaires schedules was pilot tested at OUT Kinondoni regional center to ten students, modifications to the instruments were done following the pre test.

Ethical considerations were observed at all stages of research implementation. This included carrying out research in manner that did not cause embarrassment or betray of trust and self-esteem of research participants, which included explaining the research purpose to research participants, and seek for their consent to; participate in the study, take photos, record conversations and concealing their identity.

Four learning theories that relate with the problem investigated namely behaviorism (Ertmer and Newby, 2013), cognitivism (David, 2009), constructivism (Ertmer and Newby, 2013) connectivism (Siemens, 2005) and enhancement of interactive learning through e-learning model formed the theoretical framework for the study.

5.3 Findings

Perceived relative advantage of interactive learning through e-learning

Findings show that e-learning is perceived by students and academic faculty to have relative advantage over other traditional forms of teaching and learning especially when challenged with large class size, geographical distance as well as social and economic constraints by students in conventional institutions as well as those learning through

distance learning mode. Close to seventy percent of academic faculty (67%) and more than seventy percent of (73.91%) students perceived interactive learning through e-learning to have relative advantage over traditional forms of interactive learning in terms of providing high levels of interactivity, opportunity for multitasking in that learners can study while continuing with their social and economic roles, flexibility in learning by choosing mode of learning that meets own learning style whether delayed or same time interaction forms. However a significant percentage of academic faculty (25%) perceived traditional one way lecture method more effective than interactive teaching and learning through e-learning.

Strategies for enhancing wide adoption of interactive learning through e-learning

Strategies for enhancing wide adoption of e-learning followed similar forms in all four HLIs covered by the study which started by erecting basic ICT infrastructure to support teaching and learning activities which included setting up computer laboratories, selection of the official e-learning platform, the next stage was training of students and faculty in computer user skills.

The four HLIs covered by the study were also found to be covered by wireless fidelity (Wi-Fi) internet services for use by faculty members and students. In all HLIs leadership were noted to have taken initiative to implement e-learning and had attracted funds for setting up and running e-learning programmes. However all the HLIs were found to rely heavily on donor funding. Findings also show that three of the four higher covered by the study had developed and institutionalized ICT policy while one was yet to develop its ICT policy. At the same time two of the three HLIs, which had institutionalized ICT policy, introduced their ICT policies long after e-learning had been introduced in their respective institutions.

Students engaged in interactive learning through e-learning

Mainly highly motivated students engaged in interactive learning through e-learning as students were left on their own to participate in interactive teaching activities such as group discussions, threaded discussions and even when they did, they were left to lead the discussions and or moderate the group discussions.

Findings show that students using accessible affordable and user friendly tools were among those engaged in interactive learning through e-learning, smart phone was used by 36% of students followed by the institution internet services (25%) while the rest made use of internet cafes and own computers (39%). This finding was unexpected since most higher learning institutions had provided computer with internet connection services free to students, it was thus expected that most students would be using computers.

The study findings indicated that some of the students engaging in interactive learning were using 2.0 web including WhatsApp (63.20%) You tube (56.40%) Jamii forums (40.40 %), Instagram (40.00%), and Facebook (14.64%). However, the finding in this study that student had considered the Moodle as less useful for interactive learning purposes was unexpected, as all the higher learning institution covered by this study had selected and installed the Moodle as the official LMS.

Among students interacting through 2.0 web were those in need of general information for course being offered, these type of students were found to use the Jamii forums most for the purposes. Findings also show that students who needed to share information or discuss academic issues found the Jamii forums inadequate for the purpose due to lack of support from their lecturers.

Non physically challenged students were the ones using e-learning for interactive learning needs purposes most, the physically challenged students using crutches and wheel chairs for mobility did not adequately engage in interactive learning through e-learning, since all the buildings, lacked ramps and lifts while the computer workstations were not designed to meet the ergonomic needs of the physically challenged students.

Most students (97.78%) considered internet speed, e-teaching (84.44%), cost (56.89%) and location/distance (38.67%) as leading factors affecting interactivity the others being e-learning application skills (13.33%) and social and economic roles (5.33%). It was also considered that alternative facilities such as internet café and personal computers were unfeasible for students living in remote locations due to costs involved, distance and internet speed. Among major influences of perceptions about interactive learning through e-learning mentioned by students was electricity, with 56.89% considering electricity supply erratic, inadequate and or non existence.

The finding that internet speed was perceived to be the main leading influencing factor as mentioned by 97.78% of student was unexpected since each of the higher learning institution covered by the study had taken steps to increase internet bandwidth capacity.

All the four HLIs covered by this study had installed computers with internet connection as well as making Wi-Fi available free of charge to students and academic faculty. However, most students found the Wi-Fi reception to be poor, as it could only be accessed near administration buildings and a few areas.

Research findings reveal that 14.67% of student respondents considered social economic factors to influence their perceptions towards adoption of e-learning for interactive learning purposes.

Most academic faculty considered heavy workload as influencing factor towards using e-learning for interactive teaching and learning purposes. Another influencing factor mentioned by academic faculty which influence their engagement in interactive teaching and learning through e-learning was lack of e-teaching skills which had compelled them to simply upload their lecture notes in Pdf formats onto the Moodle e-learning platform.

Findings show that all the four HLIs have conducted training for their students and academic faculty. However some of the academic faculty members did not attend the training. Those who did not attend the trainings mentioned mix up age composition of classes as the main reason that discouraged elderly students to attend such classes for fear of loss of respect to young students who they feared would outsmart them in using computers. Even then the training conducted had mainly covered how to upload their courses onto the LMS while training in teaching through e-learning received less attention.

Findings show that e-learning coordination was put under technologist departments in all the four HLIs covered by the study. Students using e-learning for interactive learning purposes perceived e-learning to have have relative advantage in enhancing interactive learning as compared to traditional forms of teaching and learning (67%) while only a few (33%) who were using e-learning mainly for downloading education resources, considered e-learning to lack relative advantage over traditional forms of teaching and learning in enhancing interactive learning.

Most of the faculty members interviewed considered social media as valuable supportive tool that enhances interactive learning, in explaining why some of the instructors mentioned opportunities social media provides to students. Most students using the Jamii forums used it mostly for the purposes of seeking general information about courses being offered in HLIs (88.23%).

In all four HLIs though some of the computer laboratories have been placed on ground floor some of the computer laboratories have been put on high raise buildings in addition the work stations for all computers such as table height and leg room have been designed to fit normal students without taking into consideration the ergonomic needs of the physically disabled student. Such conditions make it difficult for the physically challenged students to use e-learning facilities.

Findings show that most students utilize smart phones (36%) followed by the institution internet services (25%) while the rest make use of internet cafes and own computers (39%).

Findings show that potentials that encourage academic faculty and students into adoption of e-learning for interactive learning exist. Among potentials is the excitement new technology bring with as mentioned by more than sixty percent (65%) of students, while 23% mentioned to be influenced by their colleagues, some of the students (12%) mentioned to be influenced by the perception that e-learning contributes to their career development.

Findings show that 85% of students perceived interactive learning through e-learning most suitable in meeting new learning needs brought about by technological changes. E-

learning was considered to provide opportunities in obtaining up to date information and easy sharing of learning resources as well as exchanging views than traditional forms of teaching and learning.

In this regard the new learning needs brought about by fast pace of technological development present as potential for adoption and further development of interactive learning through e-learning by HLIs. Most academic faculty and students perceive interactive teaching and learning through e-learning as the most viable tool to meet pedagogical challenges technological changes bring with.

Findings revealed that all the four HLIs covered by this study had installed computers with internet connection as well as Wi-Fi services to be used free of charge by students and academic faculty. However, most students found internet connectivity to be poor, as it could only be accessed near administration buildings and a few areas.

The rolling out of the marine cable in many parts of the country and the expansion electricity generation and distribution between 2013 to 2017 is expected to double electricity production and to curb inefficiency in distribution, the success of such efforts will lead to increased internet bandwidth capacity, more reliable and stable electricity supply which would translates as potential for wide adoption of e-learning by HLIs.

5.4 Conclusions

Understanding students' and academic faculty perceptions about enhancing interactive learning through e-learning is an important step towards designing related strategies to promote interactive teaching in higher learning institutions. The primary contribution of this research is in furthering our understanding of the variables that affect perceptions

about interactive learning through e-learning. Based on a review of the literature and the research findings, the following conclusions were drawn:

Relative advantages of interactive learning through e-learning

It could be concluded that positive perceptions about interactive learning through e-learning, students and faculty members hold is related to the perceived relative advantage e-learning has over traditional forms of interactive learning. In this regard the belief that e-learning is best fit for distance learners is no longer valid, higher learning institutions should come out of that myth and embrace opportunities e-learning technologies provide for enhancement of interactive learning and improved quality learning.

Among students perceiving interactive learning through e-learning as less effective in enhancing interactive learning are students in remote locations. Students in remote location are facing difficulties in accessing e-learning facilities due to distance and costs they are required to incur to reach and access the e-learning facilities most of which are located in urban areas. Their reluctance to engage in interactive learning through e-learning should not warrant an excuse to brand them as laggards inferring that they are conservative in technology adoption, as that does not help to identify the underlying reasons that best explains why they are not using e-learning for interactive learning purposes.

Strategies employed by HLIs to enhance interactive learning through e-learning

It could be concluded that strategies selected by higher learning institutions in promoting interactive learning through e-learning have not adequately addressed interactive learning problems which students and faculty are facing. This is evidenced by tendency by most HLIs to ignore ICT policy development especially at early stages of e-learning planning

and the adoption of the simplest form of blended learning which provide minimal interaction capabilities.

Most of e-learning courses designed take long to be implemented. Reasons for doing so is based on argument that effective implementation of interactive learning through e-learning may entail revising curricular from traditional formats to interactive formats which might take several years of relationship building, needs assessments, piloting tests, intense years of collaboration, skill building, and technological upgrades to carry out; such that it would require a decade or more to fully implement and evaluate. However, time is not on HLIs side as technological development is growing very fast such that new courses to cater for new trades have to be designed to replace old trades which are fast being pushed out.

Implementation of interactive learning through e-learning based on perceptions that some students by nature belong to innovators, early majority, late majority or laggards disguise existing differing opportunities to technology use and difficulties students face when attempting to interact through e-learning. Students who are best placed to use e-learning that is those possessing computer and internet user skills and those accessible to e-learning technologies would belong to innovators or early majority while students facing difficulties in using the technology due to lack of computer and internet user skills and ability to meet costs to use the technology would be branded laggards or luddites.

It could be concluded that the perception that new technology is always good and what is required for education institutions is simply rush for it does not help in designing and promoting teaching and learning methods that adequately addresses challenges brought about by technological changes in the world. All HLIs in this study have followed this

trend as coordination of e-learning in all HLIs has been left to ICT specialists, which suggest an inclination towards technological based teaching and learning as opposed to pedagogical inclination. Such strategies in turn negatively influence students and faculty perceptions about interactive learning through e-learning.

Students engaged in interactive learning through e-learning

It could be concluded that most students engaged in interactive teaching are those using tools that are accessible, cheap, mobile and user friendly. The smart phone was considered by students engaged in interactive learning through e-learning as a tool that meets mentioned criterion and for the reasons was considered to be the leading preferred tool.

Some of the students engaged in interactive learning through e-learning are using WhatsApp as the most preferred interactive social media. Reasons for preference, being that WhatsApp allows students registered in same courses share ideas, notes and learning resources much easier than the Jamii forum and Facebook page, which tends to cater for a large number of students across all courses.

It could also be concluded that the Moodle e-learning platform adopted by all HLIs lacks effective interactive learning capabilities and for that reason most students find it less effective for interactive learning purposes.

It could be concluded that students are not being encouraged to use e-learning for interactive learning purposes in most cases students are left on their own to take part or not take part in interactive learning activities as all HLIs have opted for the simplest form of blended learning which provides minimal interactive teaching and learning capability.

Factors influencing e-learning interactivity

Students in challenging environments who manage to complete their studies without interactive learning opportunities belong to a group of highly motivated students, this condition help them to overcome difficulties they face when engaged in teaching learning. The fact that they pass should not warrant neglect of problems they face. It is clear that their grades would have improved if they had opportunities to engage in interactive learning through e-learning.

The ergonomic needs of the physically challenged students are ignored when setting up e-learning infrastructures in HLIs. Physically challenged students who are using wheel chairs and or crutches find it difficult to access and use e-learning facilities placed on high raise buildings which lack ramps or elevators or to fit themselves onto rigid computer workstations designed for normal students.

It could be concluded that most academic faculty lack e-teaching skills, as most have been exposed or trained to traditional forms of teaching and learning. It should thus not be expected that they would positively perceive interactive learning through e-learning as effective and useful for teaching and learning purposes.

It could also be concluded that most students find the Moodle less effective for interactive learning purposes since faculty members are not encouraging students to utilize its interactive features to meet their interactive learning needs.

Potentials for wide adoption of interactive learning through e-learning in HLIs

It could be concluded that the fast pace of technological development coupled with increasing number of students which is not in line with existing facilities has created new

learning needs. These new learning needs are regarded as influencing factors towards wide adoption of e-learning in HLIs since the changes are pushing HLIs into developing new courses, revising existing courses as well as find new methods of education delivery that would meet the challenges. E-learning is regarded to have potential to meet the teaching and learning needs being created by technological changes.

It could be concluded that improvements in electricity generation and distribution in the country as well as increased internet bandwidth and emerging new technologies such as cloud computing present as potential for further improvement of wide adoption of e-learning among students and faculty members

5.5 Recommendations

The following section provides recommendations; for future research, education practioners, higher learning institutions and pedagogical issues to consider when conducting needs assessment for introducing or revising new courses.

Future research

The following recommendations are offered for related research in the field of e-learning and education media and technology.

This study could be replicated to cover other higher learning institutions which are using e-learning or planning to use e-learning for interactive teaching and learning purposes. A study that would investigate the use of the Moodle interactive features is required in order to find out why students perceive Moodle to lack interactivity. Also studies could investigate how gender influence perceptions about e-learning and how to sustain and promote female enrollment for higher learning through e-learning.

Practice by higher learning institutions

Higher learning institutions should emphasize learning theory as one of key concepts when conducting need assessment, that is when introducing e-learning programme or course or when reviewing e-learning course/s. Learning theories provides HLIs a strong scientific foundation for making intelligent and reasoned strategy leading to quality teaching learning through enhanced learner interaction.

Higher learning institutions planning to use or are using e-learning for interactive learning purposes, should select faculty carefully, as not all faculty are fit to teach through e-learning, choice of faculty based on their professional expertise could be the first step, the next step should be training slected faculties in teaching through e-learning at least at certificate level for those lacking e-learning teaching skills.

Faculty should be trained on the use of computer, especially software application that would sharpen their skills to use multimedia so that they produce course material which integrate multimedia like graphics, animation and video.

Higher learning institutions should consider course preparation for interactive learning through e-learning as a criterion for promoting faculty in so doing compensating for increased workload.

Since e-learning facilities are not readily available to students in remote locations, higher learning institutions should investigate the use of other types of technologies which have capacities to reach such students. Such technologies include emerging technologies which allow for direct communication with students through text, voice, video and graphics.

Higher learning institutions should seriously consider including other platforms and tools such as smart phones and social media among technologies and tools that could be used by students and academic faculty for interactive teaching and learning purposes.

Strategies which tend regard some students as conservative by nature should be discarded as they tend to strengthen the digital divide between students rather than offer a solution to prevailing problems students are facing when attempting to interact through e-learning. Instead strategies that investigate how alternative technologies can effectively be used to promote interactive learning be sought. Though e-learning could be regarded to be a multi disciplinary field, coordination of E-learning should be put into its right place that is the faculty of education and not left to technologist.

Faculty should incorporate interactive activities that encourage students to take part in interactive teaching and learning by actively using interactive features such as e-mail, posting contributions on social media and even responding to comments or contributions. Faculty also need to make this clear to students about such requirements, by including student interaction as part of the grade or stating clearly that students need to ask questions and respond to fellow students inputs. The instructors should help students in the initial stages in moderating the discussions before leaving the lead to students.

Policy formulation and review

Higher learning institutions planning or implementing e-learning should develop ICT policy to guide implementation of e-learning. The policy so designed should be frequently reviewed to accommodate new teaching and learning triggered by fast technological development.

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APPENDICES

Appendix A : Students' Questionnaire Schedule

This questionnaire is for a study aimed to investigate attempts by institutions of high learning in Tanzania to enhance learner interaction through use of e-learning. We are interested in the views and experiences of students who use e-learning platforms for interaction purposes. The information gathered will be used to write a thesis as fulfillment for the requirements of Doctor of Philosophy degree in Education. We would greatly appreciate your assistance in taking part in this study.

Confidentiality

Your responses are anonymous and will remain confidential, no names and identity of participants is required when filling questionnaires. In addition data collected will be stored in secured data base. Participation is voluntary.

Consent

By completing the data collection instrument I consent to participate in this research study.

1. Institution registered for course (select one)

- ☐ University of Dar es salaam
- ☐ Muhimbili University of Health and Allied Sciences
- ☐ Open University of Tanzania
- ☐ Mzumbe University

2. Sex (select one)

- ☐ Male
- ☐ Female

3. Marital status (select one)

- ☐ Married
- ☐ Single
- ☐ Divorced

4. Your age (years)

5. Your employment status (select only one)

- ☐ Unemployed
- ☐ Employed
- ☐ Self employed

6. Course registered (e.g. Bachelor of education)

7. Where do you live (indicate campus or area)

8. Interactive learning through e-learning has relative advantage over traditional forms of interactive learning (select only one)

- ☐ Strongly Disagree
- ☐ Somewhat Disagree
- ☐ Neither Agree nor Disagree
- ☐ Somewhat Agree
- ☐ Strongly Agree

9. I preferintegration of interactive learning through e-learning in my course

(Select only one)

- ☐ Limited
- ☐ Moderate
- ☐ Extensive
- ☐ No usage/integration
- ☐ None of the above.

10. What factors do you consider influence Interactive learning through e-learning:

- ☐ Self answer quizzes contained in course material or required by instructors
- ☐ Assignment to be marked by instructors
- ☐ Questions that require presentation of my viewpoints and perspectives
- ☐ Expectations set up as conditions to take part in discussions
- ☐ Non of the above

11. E-learning enhanced activities have helped me to interact with (select all that applies).....

- ☐ Other students
- ☐ Instructors
- ☐ Course material
- ☐ Non of the above

12. How frequently do you use digital media available to you for teaching learning purpose (select only one)

- ☐ Every day
- ☐ Several times a week
- ☐ About once a week
- ☐ About once or twice a month
- ☐ Rarely

13. Which type of e-learning tool/facility you find affordable, accessible and usefriendly (tick all that applies)

- ☐ Smartphone
- ☐ Computer with Internet connection
- ☐ Internet cafe
- ☐ Lap top with internet connection
- ☐ Video conferencing
- ☐ Non of the above

14. Which type of 2.0 web do you utilize most (tick all that applies)

- ☐ Jamii forum
- ☐ Moodle interactive features
- ☐ WhatsApp
- ☐ Twitter
- ☐ Face book page
- ☐ Youtube
- ☐ Instagram
- ☐ None of the above

15. Do the text course material uploaded on your institution e-learning platform or provided to you, contain the following interactive learning (tick all that applies)

- ☐ Quizzes, questions and or assignments
- ☐ Conversational text
- ☐ Video, pictures and or animation
- ☐ Drawings and or graphics
- ☐ Non of the above

16. Do you take part in web discussion forums if so which one among indicated below do you utilize most (Tick all that applies)

- ☐ Face book

- ☐ Twitter
- ☐ Jamii forum
- ☐ Moodle
- ☐ Skype
- ☐ WhatsApp
- ☐ Youtube
- ☐ None of the above

17. I consider my computer skills (select only one)

- ☐ Very high
- ☐ High
- ☐ Moderate
- ☐ Low
- ☐ Very low

18. I consider my skills in evaluating, selecting and using extracted internet based information... (select only one)

- ☐ Very high
- ☐ High
- ☐ Moderate
- ☐ Low
- ☐ Very low

19. What are the main problems you face when attempting to utilize e-learning facilities for interaction purposes (select all that applies)

- ☐ Distance to facility
- ☐ Skill in use of technology
- ☐ Internet speed
- ☐ Cost

20. What general advice would you give to your institution to minimize problems you encounter if any when attempting to utilize e-learning for interaction purposes (provide no more than four)

.....

.....

.....

THANK YOU VERY MUCH FOR YOUR TIME AND ASSISTANCE

Appendix B : Interview Guide for students

This interview guide is for a study aimed at investigating attempts by institutions of high learning in Tanzania to enhance interactive learning through e-learning. We are interested in the views of both students and instructors who use e-learning platform for teaching learning purposes. The information gathered will be used to write a thesis as fulfillment for the requirements of Doctor of Philosophy degree in Education. We would greatly appreciate your assistance in taking part in this study. **Confidentiality** Your responses are anonymous and will remain confidential, no names and identity of participants is required when filling questionnaires. Data collected will be stored in secured data base. Participation is voluntary.

<p>1. Institution</p> <ul style="list-style-type: none"> ○ University of Dar es salaam ○ Muhimbili University of Health and Allied Sciences ○ Open University of Tanzania ○ Mzumbe University <p>2. Sex</p> <ul style="list-style-type: none"> ○ Male ○ Female <div style="border: 1px solid black; width: 150px; height: 20px; margin-left: 100px;"></div> <p>3. Your age (mention)</p>
Perception
<p>4. What had influenced you to get or not get engaged in interactive learning?, What are your feelings about using e-learning to help</p>

you interact with others and learning resources for learning purposes? (Would you cope without using such technologies?)
5. Do you feel your previous learning environments (school, college etc) have affected your current use of technology
Strategies
6. Have you ever attended any training in using e-learning for learning purposes, how long was the training, do you consider it adequate
7. What kind of support do you get from your instructors and institution when using e-learning? Is this different when compared to the support you get when learning through face to face? (e.g. questions, discussions) What techniques provided most help? (e.g threaded discussions, quizzes, assignments) and what kind of support would you like that is not currently available?
8. Do you perceive interactive learning through e-learning to have relative advantage over traditional forms of interactive learning in dealing with problems of large class size or geographical distance your institution is currently facing , explain
Teaching Learning with technology
9. Generally, do you have any difficulties or worries when using e-learning as part of your learning? If so explain

Appendix C : Interview Guide for Instructors

This interview guide is for a study aimed at investigating attempts by institutions of high learning in Tanzania to enhance learner interaction through use of e-learning. We are interested in the views of and experiences of both students and instructors who use e-learning platform for teaching learning purposes. The information gathered will be used to write a thesis as fulfillment for the requirements of Doctor of Philosophy degree in Education. We would greatly appreciate your assistance in taking part in this study.

Confidentiality

Your responses are anonymous and will remain confidential, no names and identity of participants is required when filling questionnaires. In addition data collected will be stored in secured data base. Participation is voluntary.

Consent- By completing the data collection instrument I consent to participate in this research study.

1. Institution

- ☐ University of Dar es salaam
- ☐ Muhimbili University of Health and Allied Sciences
- ☐ Open University of Tanzania
- ☐ Mzumbe University

2. Sex

- ☐ Male
- ☐ Female

3. Your age (mention)

4. Faculty rank

- ☐ Tutorial Assistant
- ☐ Assistant Lecturer
- ☐ Lecturer
- ☐ Senior lecturer
- ☐ Associate Professor
- ☐ Professor

6. Your Faculty (mention)

7. How long have you been working at this institution as faculty member (mention number of years)

Perception

8. What are your feelings about use of e-learning enhanced interactive learning? (*Would you cope without it?*).

9. What had influenced you to use or not use e-learning for interactive teaching and learning purposes (probe, whether it was the organizations or perception that e-learning leads to enhanced interaction or whether it was

colleagues, or for career development or whether it was a need to be inline with global changes).
Strategies
10. Have you ever attended any training in designing e-learning interactive learning that promote active teaching and learning, how long was the training, do you consider it adequate
11. How do you support students when interacting through e-learning? Is this different when compared to the support you provide when teaching face to face? (e.g. questions, discussions) <i>What techniques provide most help? (e.g threaded discussions, quizzes, assignments) and what kind of support would you like that is not currently available?</i>
12. Is the support part of the requirement for the course? If so how
Teaching Learning with technology
13. Can you think of any particular instances or examples where technology had a really positive or negative effect on your teaching? (teaching experience, enjoyment or outcome)
14. Generally, do you have any difficulties or worries when using e-learning as part of your teaching? If so explain

THANK YOU VERY MUCH FOR YOUR TIME AND ASSISTANCE

Appendix D : Semi Structured Interview Guide for ICT Administrators

This semi structured interview guide is for a study aimed at investigating attempts by institutions of high learning in Tanzania to enhance learner interaction through use of e-learning. We are interested in the views of and experiences of ICT administrators, students and instructors who use e-learning platform for teaching learning purposes. The information gathered will be used to write a thesis as fulfillment for the requirements of Doctor of Philosophy degree in Education. We would greatly appreciate your assistance in taking part in this study.

Confidentiality

Your responses are anonymous and will remain confidential, no names and identity of participants is required when filling questionnaires. In addition data collected will be stored in secured data base. Participation is voluntary.

1. Sex

- (a) Male (b) Female

2. Name of

HLIs:.....

3. Number of

courses/programmes.....

4. Number of e-learning programmes

offered.....

5. Number of course material uploaded onto LMS

platform.....

6. Number of existing registered undergraduate students

.....

7. Number of

lecturers.....

POLICY AND PLANNING FOR E-LEARNING

**8. When was e-learning first introduced atwho
 initiated the ideaindividual/department/HLIs management
 was it successful (was it supported by the HLIs)**

**9. How is planning for e-learning conducted, who develops the course and
 course material (stake holders, which department guides the exercise)**

.....

**10. Is E-learning policy available (a) Yes (b) No. When was it developed
 (year)..... has it been updated (a) Yes (b) No**

11. Has e-learning been incorporated in HLI strategic plan (a) Yes (b)No

12. Do you think most lecturers support e-learning (a) Yes (b) No

13. If NOT what could be the reason for the inadequate or lack of support

.....

TRAINING

14. Has training on e-learning been conducted to students and lecturers? How many have been covered.

Students.....lecturers.....

15. What type of training has been conducted.....

16. How has it been conducted voluntary/compulsory online/face to face

17. Do you think training provided adequate if not what should be done

.....

.....

.....

.....

.....What do you propose

should be in order to reach wide spread use among students and lecturers

.....

.....

.....

.....

BANDWIDTH CAPACITY

18. What is the capacity in Mbps.....how was it in the past..... has the improvement added anything in terms of enhancing teaching and learning.

19. What are the existing barriers students and lecturers face when attempting to use e-learning for teaching and learning purposes.....

.....

.....

.....

.....

.....

20. What do you propose should be done to improve the situation?

.....

.....

.....

.....

Is internet connection available at the HLIs (mention areas internet is available).....

..... How would you rate the internet connection speed very good/moderate/Poor/Very poor.

21. What is the internet the coverage; all the HLIs area/most areas/Half/Quarter

22. How about remote students have they been considered Yes/No if yes explain how

.....

.....

.....

.....

FACILITIES

23. Number of computers made available to students so that they utilize e-learning.....

24. Opening and closing hours of computer

**labs.....is it kept open on weekends
and public holidays Yes/No**

**25. Are they adequately utilized by students and lecturers if not what do you
think could be the reason for the underutilization of the facilities**

.....
.....
.....
.....

26. What is the current computer students

ratio.....

**27. Do you regard the facilities provided adequate if not what ratio do you think
could be appropriate for effective utilization of the
facilities.....**

TECHNOLOGY SELECTION

28. When was the Moodle e-learning platform introduced by your

institution.....

29. What are the reasons for the selection of the technology?

.....
.....

.....

30. What are its advantages what are its disadvantages

Advantages:

.....

Disadvantages

.....

31. Do you perceive the Moodle to provide best interactive learning as compared to other alternative LMS Yes/No

32. if NOT what led your institution to a decision to adopt the Moodle as the official LMS

.....

33. Has the HLIs considered use of other alternative technologies Yes/No if Yes explain, what has been done so far:

.....

.....

.....

.....

34. Is the institution encouraging students to use social media for interactive learning purposes(JF, Face book, WhatsApp..). What has been the responses on part of lecturers and students

.....

.....

.....

.....

TEACHING LEARNING WITH TECHNOLOGY

35. Have most lectures uploaded their courses onto the Moodle Yes/No

36. How many have done so, mention number.....out of..... what could be the reason for the remaining lecturers not to upload their courses onto the Moodle LMS

.....

.....

.....

.....

In what formats have the course material been designed (tick applicable)

37. (a) lecture format

(b) interactive format

38. Who supports them in course design and in uploading designed courses onto the LMS explain:

.....

.....

.....

.....

39. Have the courses incorporated interactive activities, if so what are they (tick all that applies):

- **Quizzes**
- **Self fill exercises**
- **Assignments to be sent for marking**
- **Group projects**
- **Threaded discussions**
- **Others**

.....

40. Are students and lecturers making full use of the discussion facilities available on the LMS Yes/No if not what could be the reason

.....

.....

.....

.....

**41. Which tools are most used by students for interactive learning purposes –
mention them**

.....

.....

.....

.....

**42. How are students encouraged to use the facilities (discussion facilities) is it
part of the requirement for the course explain**

.....

.....

.....

.....

Appendix E : Documentary review checklist

	<i>Item</i>		<i>UDSM</i>	<i>OUT</i>	<i>MUHAS</i>	<i>MU</i>
<i>1</i>	<i>E-learning planning</i>		<i>Done</i>	<i>Done</i>	<i>Done</i>	<i>Done</i>
<i>2</i>	<i>Courses</i>	<i>Undergraduate</i>				
		<i>Post graduate</i>				
<i>3</i>	<i>E-learning policy</i>					
<i>4</i>	<i>Trainings</i>	<i>Coordinating unit</i>				
		<i>Students</i>				
		<i>Faculty</i>				
<i>5</i>	<i>Internet capacity</i>	<i>Mbps</i>				
		<i>WI-FI</i>				
<i>6</i>	<i>E-learning Facilities</i>	<i>Students</i>				
		<i>Faculty</i>				
<i>7</i>	<i>LMS upload</i>	<i>Computer</i>				
		<i>Smartphone</i>				
		<i>Others</i>				
<i>8</i>	<i>Courses uploaded</i>	<i>Courses uploaded</i>				
		<i>Format</i>				

Appendix F : Social Media review Guide

Type	OUT		MU		MUHAS		UDSM	
	Number	%	Number	%	Number	%	Number	%
Posts								
Comments								
Responses								
TOTAL								

Categories of posts and contributions

Type	OUT		MU		MUHAS		UDSM	
	Number	%	Number	%	Number	%	Number	%
Advice/Inquires by students								
Teacher Response/Support								
General Information								
Education resources								
Discussions								
Sharing of experiences								
TOTAL								

Appendix G : Computer Laboratory observation checklist

Observation Checklist for computer laboratory accessibility by the physically challenged students in HLIs in Tanzania students

Computer laboratory Place:

Date:

Observation time: from

to

e-learning/ Setting	Description
Number of computers	
Computer to student ratio	
Computer lab access	
Computer lab location	
Internet Administrator	

Facilities

Item				
	Excellent	Very good	Good	Inadequate
Computer laboratory				
Ventilation				
Light				
Space				
Computer Workstation design				
1. Chairs				
2. Tables				

Appendix H : Research Clearance Letter

THE OPEN UNIVERSITY OF TANZANIA
DIRECTORATE OF RESEARCH, PUBLICATIONS, AND POSTGRADUATE STUDIES

P.O. Box 23409 Fax: 255-22-2668759 Dar es Salaam, Tanzania,
<http://www.out.ac.tz>



Tel: 255-22-2666752/2668445 ext. 2101
Fax: 255-22-2668759,
E-mail: drpc@out.ac.tz

21/10/2015

TO WHOM IT MAY CONCERN

RE: RESEARCH CLEARANCE

The Open University of Tanzania was established by an act of Parliament no. 17 of 1992. The act became operational on the 1st March 1993 by public notes No. 55 in the official Gazette. Act number 7 of 1992 has now been replaced by the Open University of Tanzania charter which is in line the university act of 2005. The charter became operational on 1st January 2007. One of the mission objectives of the university is to generate and apply knowledge through research. For this reason staff and students undertake research activities from time to time.

To facilitate the research function, the vice chancellor of the Open University of Tanzania was empowered to issue a research clearance to both staff and students of the university on behalf of the government of Tanzania and the Tanzania Commission of Science and Technology.

The purpose of this letter is to introduce to you **Mr. Anthony Marwa, HD/E/776/T.11** who is a PhD student at the Open University of Tanzania. By this letter, **Mr. Anthony Marwa** has been granted clearance to conduct research in the country. The title of his research is "**Enhancing Interactive Learning Through E-Learning in Higher Learning Institutions in Tanzania**". The research will be conducted in **Dar-es-salaam and Morogoro**. The period which this permission has been granted is from **26/10/2015 to 25/11/2016**.

In case you need any further information, please contact:

The Deputy Vice Chancellor (Academic); The Open University of Tanzania; P.O. Box 23409; Dar Es Salaam. Tel: 022-2-2668820

We thank you in advance for your cooperation and facilitation of this research activity.
Yours sincerely,

Prof Hossea Rwegoshora

For: VICE CHANCELLOR

THE OPEN UNIVERSITY OF TANZANIA

Appendix I : Learning theories

Behaviorism	Cognitivism	Constructivism	Connectivism
New behaviors are acquired through associations between stimuli and response.	Learning is a mental activity that involves the re organization of experience either by attaining new insights or changing old ones.	Learning is construction of new ideas or concepts based upon current and past knowledge.	Learning is a self organizing process that takes place through making connections in networked technologies

Teaching and Learning			
Teacher set; specific learning objectives, sequence of learning and apply banking methods of teaching students listen and are tested on what they have learnt.	Teacher analyze tasks to be learnt and breaks them into manageable chunks set objectives and encourage students to make connections with previously learned material and tests students based on set objectives.	Teacher guides, monitors, coaches, tutors and facilitates – creation of cognitive tools – by encouraging students to construct their own understandings and then validate what has been learnt through social negotiation of new perspectives.	Teacher helps students to make use of the abundant information available on the web by; equipping them with skills to see connections between fields and concepts through construction of networks of learning, - skills to critically review information retrieved including making critical concepts in students' communication blog, as well as through

modeling and
demonstrations.

Students motivation to learn			
Extrinsic	Extrinsic	Intrinsic	Intrinsic

Technology application			
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Computer-assisted instruction (drill-and-practice)	Artificial intelligence - involving computer supply responses to student input from the computer's data base.	Hypertext and the multimedia tools working to appropriate student	Web browser tools; e-mail, wikis, online discussion forums, social media, MOODLE learning platform
----------------------------------------------------	---------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------	----------------------------------------------------------------------------------------------------

Teaching and learning Activities			
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Drill, repetitive practice, participation points, verbal reinforcement, rules	Relevant examples, analogies cognitive strategies such as outlining, summaries, synthesizers. Explanations, demonstrations, lustrations examples, mnemonics	Open-ended questions, dialogue, case studies, research projects, brainstorming, group work, discovery learning, simulations	Students asked to seek out information by their own - online and express and share what they find.
-------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------

Types of presence fostered			
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Teacher presence	Cognitive and teacher presence	Teacher, social and cognitive	Teacher, social, and
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stimuli	presence	technology presence
Application situation		
For new A situation which concepts and requires advanced principles. That processing, is tasks classifications, requiring identifying rules, making procedural exceptions, associations, and problem solving discriminations, and rote memorization	A situation in which teaching and learning requires reasoning, problem-solving and information-processing	A situation in which advanced knowledge and the learning outcome expected is primarily to further students learning in a field of study interesting to them.

Appendix J : Perceptions and Assumptions on e-learning

Assumption	Perceptions	Nature of technology	Organization	Implementation	Constraints
Technology drives development of enhanced interactive teaching and learning	Technology is instrumental to human development	Most up to date technology is imperative to development	Technology based teaching and learning	Linear with specific technology implementation stages	Technical and infrastructural problems
Technology not necessarily useful in promoting enhanced interactive teaching and learning	Technology erodes human development	None	Traditional teaching and learning	Using traditional technology methods	Cost involved not matching benefits
Teaching learning methods are a determining factor towards enhanced interactive teaching and learning	Teaching methods are instrumental technology is necessary as a tool	Appropriate technology on basis of operational contexts	Environment, culture and general conditions	Uncertainty depending on existing conditions,	Environmental conditions

Appendix K : Perceptions about Interactive Learning through e-learning from reviewed literature

Perception that technology is a major determinant factor towards achieving development			
N	Author	Sample and instrument	Title and main findings
o			
1	Brecht, H.D. (2012), USA	Comparative study using three different types of videos to supplement face to face teaching. Findings based on analysis of survey data, grade distributions and comparisons of with-videos and no-videos sample data	Computer application to supplement face to face teaching learning Findings: Video lectures that are used by students for tutorial help students improve initial learning, reduce dropout rates, and improve course grades.
2	Tagoe, M.(2012), Ghana.	A total of 534 HLIs students – using a questionnaire	Incorporating e-learning into teaching and learning at the University of Ghana. Findings students preferred mixed mode and web supplemented courses with traditional teaching formats than web dependent and fully online courses
Perception that technology as a destructive forces it provides false promise of improved learning and or distracts students from studies.			
3	Oppenheimer, T. (2003),	A journalist who conducted visits and observation of computer	The False Promise of Technology in the Classroom and How Learning Can Be Saved. Findings the cost in purchase and

	USA	application in schools for five years.	maintaining the technology does not match with benefits accrued. Conclusion technology should not be applied or applied with caution.
4	Kibona, L., & Mgaya, G. (2015), Tanzania	100 students having smart phones were surveyed regarding the usage of Smartphone to their academic performance - structured questionnaire used to gather data	Use effect on academic performance in HLIs Findings smart phone' use in colleges distracts students from studies. Conclusion use of smart phones in higher learning institutions be discouraged.
e-learning potential in enhancing interactive learning.			
5	Nihuka, K.A. (2010), Tanzania	A sample of 67 Foundation course students and 3 teachers employing Teachers' questionnaire and interviews and Students' questionnaires and focus group interviews	The use of the Moodle management system to enhance e-course delivery at OUT. Findings Students' positive perceptions of interactive e-learning were not in line with their computer and Internet knowledge and skills. Conclusion training in Internet user skills essential for e-learning adoption and application
6	Mansour, S., El-Said, M., & Bennet, I. (2010), USA	Ten e-learners of from the University of Louisville were involved in the experimental study analysis.	Does the use of second life affect students' feeling of social presence in e-learning? Findings e-learners who participated in the Second Life sessions scored higher in their feelings of social presence. Conclusion Incorporate interactive activities in course design.
7	MbwesaJ	One hundred and sixty	Transactional Distance as a Predictor of

	.K.	eight random sampled	Perceived Learner Satisfaction in Distance
	(2014),	university of Nairobi	Learning Courses Findings Learner–Teacher
	Kenya	students – data obtained	transactional distance was experienced by
		through self fill	most learners (82%). Conclusion computer
		questionnaire	mediated communication breaks the
			distance barrier.
8	McArthur	Involved 144 students and	Student-Instructor Interaction on Twitter
	,J &	3 instructors from Queens	and Student Perceptions of Teacher
	Bostedo-	University of Charlotte–	Behaviors at Queens University of
	Conway,	employing a 7 point likert	Charlotte. Findings students perceived the
	K.(2012),	scale structured	twitter as a valuable tool to supplement
	USA	questionnaire and open	more traditional forms of course instruction
		ended questionnaire	and suggested higher learning institutions to
			integrate it into their curriculum

Appendix L : Strategies to promote interactive through e-learning

Strategy diffusion of innovation (Rogers, 1995), ACOT model (Apple, 1995)			
No	Author and place	Sample and instrument	Title and main findings
1	ACOT (1995) USA	The study employed questionnaires as well as classroom observations of instructional practice from 32 elementary and secondary teachers in five schools located in four different states in USA.	An evaluation of a project which was aimed at encouraging instructional innovation using computers through providing students and instructors with computers for the purpose Findings show that the application of computers in class room had facilitated student improvement in a variety of skills identified as essential to prepare today's students for tomorrow's world
2	Jwaifell, M.O & Gasaymeh, M.A. (2013), Jordan	Semi- structured interviews for ten students in 34 graduate students enrolled in a blended learning class in information technology. Rogers' innovation diffusion model was employed to understand and clarify the findings	Using diffusion of innovation theory to explain Jordanian Graduate Students' Attitudes toward and Use of Weblog in a Blended Learning course. Findings: though students had positive attitudes towards use of the blog as a tool for communication their participations in the blog were very limited in based on Rogers' innovation- diffusion model, students were still in the decision stage of the innovation decision process in relation to the adoption of the blog as a tool for communication and

			reflection.
3	Kajuna L.W. (2009). UDSM Tanzania	24 students and 10 faculty academic staff, one dean of faculty and one head of department	<i>Implementation of technology integration in higher education: A case study of the university of Dar es salaam.</i> Findings show that few faculty academic staff had integrated technology in teaching. Some teachers used computers to present lessons with students becoming mere observers of how technology is being used. Inhibiting factors being lack of strategic plans and professional development training. The study suggest that integration of technology in teaching should focus more on pedagogical aspects rather on technology and follow ACOT model of diffusion of innovation
Conditions for e-learning adoption Ely (1999), Effective plans for integration of e-learning, See(2004)			
No	Author and place	Sample and instrument	Title and main findings
4	Olipa et al., (2012)	Key stakeholders in planning and implementing competency based teaching and learning- faculty and students	Study looked into a process involved in revising MUHAS curricular to competency based teaching and learning Findings: The competency identification exercises had shown that students wanted more clinical and practical training, opportunities for active learning, training to use computers, and educational technology. While faculty

			wanted to be able to use interactive instructional strategies to increase active learning, use more technology in their teaching, develop and communicate expected student outcomes, teach and assess professionalism, and work inter-profession
No	Author	Sample	Title and main findings
1	Mtebe, J.S & Raisamo, R (2014) UDSM Tanzania	608 instructors – Google doc. e-mailed questionnaire	Challenges Instructor face when attempting to Adopt and Use Open Educational Resources in Higher Education in Tanzania. Findings: Unreliable internet connection, quality of OER, and lack of awareness of copyright issues The study suggest education institutions to find strategies that will maximize adoption and usage of OER in teaching.
2	Mosha,G.E & Bea, G.K (2014) Tanzania	50 students and lectures – questionnaires and in-depth interviews	Perceived barriers in using internet resources in higher learning institutions. Findings a mismatch was found between readiness to use e-learning resources for teaching and learning and actual usage, the major barrier identified were slowness of internet, lack of skills on how to search internet resources, lack of technical support, computer viruses, inadequate PCs and suggest management to address the identified barriers.

3	Mtebe, J.S & Raphael, C (2013) UDSM, Tanzania	22 post graduate students in three centers in Tanzania – self fill questionnaire	Challenges of blended learning at the University of Dar es Salaam, Tanzania. Findings revealed outdated learning resources, unavailability of instructors during live online sessions, under-utilization of Learning Centres, and technical difficulties as the main factors that affect students from excelling well in blended learning programmes. Suggest that that the center for Virtual learning which runs the programmes should provide reliable and effective user support regularly to instructors for effective use of the Moodle LMS platform.
4	Qureshi et al., (2012), Pakistan	238 undergraduate and post graduate students of Pakistan university –structured questionnaire	Challenges of implementing e-learning in a Pakistani university. Findings show that the most significant barrier to e-learning experienced by students was electricity failure and English proficiency.
5	Tarus, J.K Gichoya, J.D & Muumbo, A (2015), Kenya	148 staff of three public universities in Kenya – questionnaires, in-depth interviews and document analysis	Challenges in implementing e-learning in Kenya public universities. Findings: reveal lack of affordable and adequate Internet as well as lack of operational e-learning policies as a hindrance towards implementing e-learning in. Suggest that Kenyan public universities should address these challenges as a prerequisite to successful implementation of e-learning.

Appendix M : Type of Students using e-learning for interactive learning purposes from reviewed literature

No	Author and place	Sample and instrument	Title and main findings
1	Osunade,O. (2003), Nigeria	A comparative study involving two groups One group exposed to Internet learning (experimental group) and another group used as a control group.	Study titled “An Evaluation of the Impact of Internet Browsing on Students Academic Performance at Tertiary Level of Education in Nigeria Findings reveal a significant difference in academic performance for students with Internet access and those without such access. Students exposed to Internet learning platforms performed better than those exposed to traditional methods. Students who perceive e-learning to lead to interactive learning are the ones using e-learning for interactive learning most
2	Sabah, N.M. (2013), Gaza-Palestine	The study involved 100 students form Alquds Open University using 33 questions based on the Likert scale with 5 responses ranging from absolutely agree to absolutely disagree.	A study which investigated the factors that affect the acceptance of e-learning among students. Findings show that students with computer experience and frequent user are more likely to accept e-learning for enhancing interactive learning, also that students with no experience of e-learning tend to have weak motivation to participate in the e-learning process. However he noted that strategies that promote interactivity and motivation contribute at enhancing and improving learning effectiveness across all

the groups.

Students who perceive that people who are important to him or her think he should use e-learning for teaching learning purposes are motivated into using e-learning.

- 3 Mtaho, A.B & Ishengoma, F.R (2014). Dodoma Tanzania
The study employed content analysis to analyze the Jamii Forum (JF) was being used as an e-learning platform in Tanzania. A total of 70 purposely selected students were interviewed
A study on Online social network as a tool for facilitating e-learning in Tanzania
Findings show that despite JF popularity 34% of students indicated lack of accessibility to the JF as the leading reason, for poor utilization of the OSN for interactive learning purposes.
Students using tools that provide high levels of interactive learning
- 4 Johnson, J.K. (2007). USA
A comparative study which reviewed three courses taught by three instructors from two different higher learning institutions
Study titled ecological assessments of the online environment. The study had aimed at finding out whether learners had been encouraged to use e-learning when designing and implementing an e-learning program
Findings. While findings show that encouragement contributes at enhancing interactive learning, it also shows that students who value independent learning and those taking courses that allow flexibility in learning are less willing to take part in interactive learning though e-learning
Students encouraged into interactive

			learning through interactive activities incorporated in courses e-learning
5	Nnafie, I. (2002), Dar es salaam Tanzania	Interview involved 45 administrators and 346 users of Internet cafés employing an interview schedule.	A study titled “Problems and Opportunities on access and Use in Dar es Salaam Tanzania” Findings: Most internet café users lack skills for searching the web. Students with adequate e-learning skills and information processing skills make use of e-learning for interactive learning purposes than those who lack such skills
7	Kabuta, L.K. (2014, Morogoro, Tanzania	employed interviews and self filled questionnaires to draw data from 12 challenged students, 82 normal students, 21 tutors and 40 parents and 5 heads of institutions	Problems facing students with physical disabilities in higher learning institutions in Morogoro municipality. Findings show that only 20% of ICT laboratories in the higher learning institutions were easily accessible to the physical challenged students. Such that physically challenged students using wheel chairs and clutches encountered difficult to reach the e-learning laboratories. Students who are not physically challenged use e-learning for interactive learning purposes than the physically challenged students

Appendix N : Barriers in interactive teaching and learning through e-learning from reviewed literature

No	Author	Sample	Title and main findings
1	Mtebe, J.S & Raisamo, R (2014) UDSM Tanzania	608 instructors – Google doc. e- mailed questionnaire	Challenges Instructor face when attempting to Adopt and Use Open Educational Resources in Higher Education in Tanzania. Findings: Unreliable internet connection, quality of OER, and lack of awareness of copyright issues The study suggest education institutions to find strategies that will maximize adoption and usage of OER in teaching.
2	Mosha,G.E & Bea, G.K (2014) Tanzania	50 students and lectures – questionnaires and in-depth interviews	Perceived barriers in using internet resources in higher learning institutions. Findings a mismatch was found between readiness to use e-learning resources for teaching and learning and actual usage, the major barrier identified were slowness of internet, lack of skills on how to search internet resources, lack of technical support, computer viruses, inadequate PCs and suggest management to address the identified barriers.
3	Mtebe, J.S & Raphael, C (2013) UDSM, Tanzania	22 post graduate students in three centers in Tanzania – self fill questionnaire	Challenges of blended learning at the University of Dar es Salaam, Tanzania. Findings revealed outdated learning resources, unavailability of instructors during live online sessions, under-utilization of Learning Centres, and technical difficulties as the main factors that affect students from excelling well in blended learning

programmes. Suggest that that the center for Virtual learning which runs the programmes should provide reliable and effective user support regularly to instructors for effective use of the Moodle LMS platform.

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|---|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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| 5 | Tarus,J.K Gichoya, J.D & Muumbo, A (2015), Kenya | 148 staff of three public universities in Kenya questionnaires, in-depth interviews and document analysis | Challenges in implementing e-learning in Kenya public universities. Findings: reveal lack of affordable and adequate Internet as well as lack of operational e-learning policies as a hindrance towards implementing e-learning in. Suggest that Kenyan public universities should address these challenges as a prerequisite to successful implementation of e-learning. |
-

Appendix O : Findings Recommendations and remaining unanswered questions from reviewed Literature

Theme	Constraining features identified	Recommended action	Remaining questions
Perception	Computer/technology phobia among faculty and students	support academics suffering from technophobia	What are the underlying reasons behind so termed technophobia among faculty academic members and students
	Lack of commitment on part of departments towards application of e-learning	Involve stakeholders in planning and implementation of e-learning programme	What comprises essential steps in designing effective e-learning programme that leads to enhanced interactive learning
	Lack of motivation on part of faculty members	Provide incentives (monetary form),	Is lack of motivation the only reasons for faculty reluctance to teach though e-learning could there be other reasons
Strategy for wide application of e-learning among students	Most students and faculty members not aware of potential of e-learning	Follow five stages of awareness creation – by way of concentrating first on these ready to use e-learning neglecting laggards as whatever you do there will be	Is there no other means to reach the hard to reach students (distance, social roles, economic barriers) with user friendly technology that breaks the said barriers

		always be those you cannot reach	
Strategies and plans not considering conditions in which planning and strategies are being drawn	Consider eight conditions; current methods not sufficient, encouragement, presence of knowledge, adequate time for implementers, support to implementers, involve stakeholders, availability of resources, active involvement of leadership	What about conditions of students in remote locations What about users attitude towards e-learning What about the Physically challenged students	
e-learning plans inadequate	Effective plans that organizes the eight conditions: should be short terms, focus on application not technology, staff development should be an integral part of the strategic plan;	What about the requirement that implementers need time to implement e- learning will this not make the condition that the plan should be short term redundant?	
Teaching	Very few faculty	Train faculty in	Is computer user skill the

learning with technology	members have computer user skills only felt inadequacy among
	uploaded their course on how to upload faculty members are they
	material onto the course onto LMS adequately skilled to teach
	Moodle LMS through e-learning and
	course preparation have
	they attended training and
	how long was the training
	A LMS most useful for The Moodle LMS to Do students and faculty
	interactive learning replace the members consider the
	purposes Blackboard and other Moodle as most useful
	LMS LMS for interactive
	learning purposes
	Frequency in use of e- Most students not Is the institution computer
	learning utilizing computer with internet connection the
	labs increase opening most preferred/used tool by
	hours of computer students or are there others
	labs (hours and days
	e.g. Sundays, public
	holidays)
	sell computer at
	lower price to
	students
	Very few students Train students in Are students skilled in
	participate in computer use and information processing
	interactive learning search skills skills
	through e-learning
Barriers	Internet connection, Increase bandwidth, Will the increased
	make wireless bandwidth work as a

	fidelity (Wi-Fi) solution to students in	
	available to students	remote locations
Frequent power failure,	deal with power	Do alternative/equally or
bandwidth capability,	failure by having in	more efficient user friendly
computers with internet	place stand by	technologies exist, are they
connection	generators	accessible to students and
		faculty members
Unreliable source of	Collaborate with	Do cheaper technology
funds	stakeholders for	options exist?
	reduced cost for	
	higher bandwidth	

Appendix P : OUT Jamii forum content review extracts

Post no	DISCUSSION THREADS
1	<p>Msaada kwa aliyegraduate PGDE Open University of Tanzania</p> <hr/> <p><i>Attracted no response</i></p> <hr/> <p>Kwa yeyote yule aliyegraduate PGDE Open university of Tanzania naomba anisaidie jinsi ya kuandika project au guidelines za kuandaa project coz hawa jamaa huwa hawatoi chochote wanasema tubuni title then tuandike tutakavyojua</p> <p><i>Attracted no Response</i></p>
3	<p>Nimekua nikijiuliza kama kuna tofauti ya mishahara kwa waajiriwa kutokana na vyuo walivyosoma labda Udom, saut,Mkwawa,Udsm,Sua,Mzumbe,n. k.</p> <p>Baada ya kufuatilia nimegundua yafuatayo</p> <p>1. Walimu wanaomaliza vyuo vyote tanzania kwa ngaz ya shahada (degree) na kuajiriwa na serekali wanalipwa mishahara sawa wanapoanza kazi.</p> <p>2.madactar,manesi,wanasheria wanapoajiriwa na serekali wanapangiwa katika maeneo tofauti tofauti bila kuangalia waliosoma chuo hiki waende huku na wa chuo hiki waende kule,wote wanakutana kwenye ofisi moja na utendaji ni ule ule.</p> <p>Mantiki yangu hapa ni kwamba kama ktk ajira hatuajiriwi kwa kuangalia ulisoma chuo gan bali ufaulu wako uliokuwezesha kupata shahada na utendaj kwanini watu weng wanaponda baadh ya vyuo na kuvibeza vingine.</p>

Kamtu kanasoma Bsc with Ed Udsm, na mwingine coz hiyohiyo Mkwawa au sauti au udom,watu hawa wote watapewa mkopo,watapewa ela ya field,Watapewa ela ya special faculty,watapewa ela ya stationary na hata ktk kuajiriwa wataajiriwa shule moja na kiwango kimoja cha mshahara bila kuangalia nani kasoma wap?kuna kejeli zingine hazina mantiki

kwa mtu unayesoma coz zisizo na ajira ya moja kwa moja mf Baf,BICOM,IT,TOURISM ni vyema ukaangalia ni chuo gan kinaongoza kwa ile fani usika unayoichukua kwani hamna chuo kinachotoa wahitimu perfect kwenye coz zote ila baath ya coz.

Pole kaka, naona yamekukuta ndo maana unaonesha kugushwa. Hata hivyo kaka kizuri hujiuza na kibaya hujitembeza. Kwahiyo huna haja sana ya kupiga chapuo kwa jambo kama hilo. Kama unafaa, utaajiriwa tu katika taasisi yoyote lakini kama asilimia kubwa ya watu wanaotoka vyuo flani hawaoneshi kuwa na uwezo wa kufanya kazi vizuri inapunguza credibility yao kuajiriwa. Unajua kila chuo kina reputation yake kwa waajiri so swala la msingi ni kuhakikisha kuwa kila chuo kinatoa elimu bora ili kushindana katika soko la ajira. Usilalamike kijana, oneshwa umuhimu wa elimu yako, otherwise utalalamika mpaka mwisho

silalamiki ila nataka logic ya kutaka watu wote wasome Ud kama ndo chuo kikuu pekee tz.by the way najiamini na ufaulu wangu ni mzur.Kuna degree program ngap hazitolewi ud?so watu wasisome wanapozitoa?je course outline ya ud na vyuo vingine utofauti waka mkubwa upo kwenye nini?

Hapo kwenye red mzee, aah umenikosha! tusijadili vyuo gani, bali competence na performance katika kazi. Vyeti vay kibongo ukiviona vinatisha

ila vichwani in reality bureeeeeee! kabisa. Kuna interview moja ilifanyika wakabaki watu 3 na anahitajika 1, fani uchumi; mmoja Open university with 3.5 GPA, UDSM with 4.5 na mwingine KIU with 3.8 GPA, wote freshers ambaye sasa ni mchumi wa wilaya ni jamaa wa OPEN unv.!

Naona una epress hisia zako. Vipi umenyanyapaliwa nini? Lakini kwa taasisi binafsi mwajiri ana haki ya kuweka criteria kama anataka. Mfano kuna shule naifahamu Graduate wa UDSM, DUCE,MUCE, SUA wanafundisha A Level wakati wa vyuo vingine kama TEKU, IUCO, SAUT wanapewa vipindi Form One; ila serikalini hakuna kitu kama hicho

Tatizo waliosoma vyuo vya kata hawajiamini wawapo kazini hata akiulizwa umesoma chuo gani anajibu kwa hofu, na wengine ni vilaza kweli wamebeba ma GPA makubwa hawana confidence ya kuyatumai, mlolongo wa namna alivyosoma ameunga ni balaa ana vyeti 3 vya olevel 2vya Alevel.hasa hao walimu sio wote ila wengi ni matatizo, wapo kazini kwangu tena toka vyuo mbalimbali vya kata hawajiamini. lakini fanya uchunguzi mdogo kujua wanafunzi wa ualimu wanao soma sauti,tumaini,teku,m.meru,arus ha n.k background yao wengi walikuwa vilaza toka sekondari,nani hapendi kusoma udsM, sua vyuo vikubwa?naongelea kwa walimu. mkwawa na duce hawana shida ilahao wanaotoka private university hawajiamini ndo maana wanaonekana hawafai.lakini kuna mmojammoja wapo vizuri kichwani

Nimegundua kuwa huyu aliyeleta hii mada hapa hajui mchakato na utaratibu wa ajira. Vigezo vya GPA na CHUO vinatumika tunapofanya selection/shortlisting,likini kiasi cha mshahara hutegemea scheme of service inayotumika katika ofisi husika. Msichanganye kati ya GPA/CHUO mtu na

	mshahara havina uhusiano.
4	<p>Mkopo wa elimu kwa open university of Tanzania</p> <p>Habari wapendwa!, ni mara ya kwanza kuandika chochote mahali hapa. Kikubwa naomba kufahamishwa kwa wale wenye uzoefu. Nina Diploma in Electronics and Telecommunicatrions Engineering kwa bahati nzuri nilipata ajira miezi mitatu baada ya kuhitimu. Nilikua nafikiria kujiendeleza kielimu kupitia Open Univ. of Tanzania huku nikiendelea na kazi. Je kuna uwezekano wa kupata mkopo kutoka board nikiomba kusomea ICT? Nilimaliza Diploma 2011. Changamoto yangu ni kwamba siwezi kuacha kazi sababu ajira ni ngumu af kujisomesha nayo ni ngumu kiasi sababu mshahara hautoshelezi. Nitafurahi kusikia chochote kutoka kwako. Asante Sana</p> <p>Attracted 6 responses – all positive encouraging the person to study through OUT</p>
5	<p>Yaani hivi vyuo vimekua kama utitiri, baada ya KIU tutaletewa njaa nyie</p> <p>Subirini tuuu</p>
6	<p>Msaada kuhusu Open University of Tanzania</p> <p>wakuu vp out wametoa selection kama ndio vp ntazionaje maana website yao haifunguki tafadhari naomba kufahamishwa kwa anaejua.....asante</p> <p>No response</p>
7	<p>Naweza pata nafasi Open University ya BEd in Special Education</p> <p>Attracted 9 responses – all positive</p>

8	<p>Ndugu zangu naomba mwenye kujua anisaidie kuhusu ada ya post graduate diploma ya education Open na kama wameanza udahili pia na courses za kusoma kwa mtu Wa BA Economics.</p> <p>Attracted 5 responses – all positive</p>
9	<p>Huenda Open University of Tanzania (OUT) inatoa wanafunzi bora Tz</p> <hr/> <p>Attracted 8 responses with mixed feelings/views – 3 in support 3 not support 2 neutral</p> <p>Ndugu wanaJF, wanafunzi wa Chuo Kikuu Huria Tanzania (OUT) licha ya kuwa na changamoto nyingi katika utafutaji wao wa elimu (hasa kwa kuzingatia kuwa wanasoma na wakati huohuo wanafanya kazi) wanaweza kuwa bora zaidi kuliko wanaotoka conventional universities hapa Tanzania kwa maana kwamba wanajitafutia notes za masomo na kujinunulia vitabu/wanajituma kusoma maana hakuna njia nyingine yoyote inaweza kuwafanya wafaulu zaidi ya kujitafutia wenyewe.</p> <p>According to Prof Mbwete, graduates wa Faculty of Law wanafanya vizuri sana kulinganisha na wa vyuo vingine. Sababu hasa ninayoiona ni ile hali ya kujitafutia study materials (kujituma kwao)/kuchakalika.</p> <p>Hata baadhi yao uki‘argue’ nao unapata feeling kuwa wameiva vizuri kielimu. Naomba mchango wenu maana mara nyingi huwa tunajadili wanafunzi wa vyuo vingine na kuwasahau kabisa as if hawapo.</p>
10	<p>Je, bachelor of science with education open university ntapata mkopo kweli</p>

	<p>maana ndo nimechaguliwa icho chuo wakuu</p> <p>Attracted 18 responses most positive 3 also needed additional information</p>
11	<p>Habari wakuu?!</p> <p>Wakuu nahitaji kusoma kozi ya Administrative Law, chuo kilicho karibu yangu ni Open University tu;</p> <p>-Je hiki chuo huwa kinatoa hizi kozi?!</p> <p>-Na inasomwa kwa muda gani?!</p> <p>-Ada yake ni kiasi gani?!</p> <p>No response</p>
12	<p>Heshima ziwekwenu wanajamvi naomba kujua namna ya kujiunga na kusoma online katika chuo kikuu huria kozi ya sheria-results ni Geo-C,ENG-C,KISW-D,CIVICS-D,HIST-D,BIO-F,MATH-F dev 4-28.msaada kwa anaejua hata ushauri unatakiwa kama upo asanten</p> <p>No response</p>
13	<p>If you are an open university student and you have trouble getting a well qualified teacher or mentor to take you through your studies, then contact me.</p> <p>If you are an open university law student, and you are having problems writing a good research proposal or any research work then contact me.</p> <p>Don't hesitate, because I am the perfect person to assist you in your academic problems, at an affordable and reasonable price</p> <p>Attracted 7 responses all were negative</p> <p>one queried Is it allowed? –</p>

14	<p>Open University wanatoa certificate ya sheria?</p> <hr/> <p>Attracted 2 responses- all positive</p>
15	<p>Open university kitengo cha masuala ya technology kinatangaza nafasi ya masomo ya computer ya muda mfupi(short course)na ya muda mrefu(certificate &diploma)katika computer pamoja na masomo ya pre form one kwa waliomaliza darasa la saba ambao watafundishwa pia somo la computer kwa ajili ya kuwapa mwangaza zaidi kwa mawasiliano piga namba 0779888204 au 0778888960</p> <p>Attracted 19 responces all positive</p>
16	<p>Habari wana jamvi.</p> <p>Poleni kwa wale waliokuwa katika heka heka za selection ya chuo na maswahibu yake kupitia TCU. Ila tushukiru mungu hadi hapa tulipofika.</p> <p>Okay naomba niende moja kwa moja katika lengo kuu juu la uandishi wangu katika jamvi la elimu.</p> <p>Ningependa kufahamu kwa mwenye uzoefu na chuo hiki cha OPEN UNIVERSITY juu ya mitaala yao kuhusiana na elimu. Je hizi habari juu ya kuwa chuo hakina kawaida ya kutoa msaada (assistance in lecturing) juu ya ufundishaji bali pale ni kama kituo tu cha kufanya mtihani na Course Outline utajua utakapo ipata mwenyewe ni kweli?</p> <p>Nina degree ya Business Administration ila nafikiria kuomba chuo hiki MBA kutokana na unafuu wa bei zao. Naomba msaada kwa yeyote mwenye uzoefu na hivi vyuo anifumbue macho japo kwa uchache kabla sijafika huko katika</p>

	<p>vituo vyao.</p> <p>Msaada wako utakaonipatia natanguliza shukrani zangu</p> <p>Attracted 16 responses all positive</p>
17	<p>Naomba msaada wenu wakuu nataka kujua duration (muda) kwa kozi ztolewazo na open ni sawa na duration(muda) za vyuo vya kawaida au?,,,na ikiwezekana anaejua fee structure za open,,,mfano tukichukulia diploma ya ed,,,maana nmesoma detail kwa google cjazielewa vzur,,,natanguliza shukurani</p> <p>Attracted 7 responses all positive</p>
18	<p>Wana JF, nimejaribu kuangalia kwenye website ya Open University, sijaona tangazo la Masomo la mwaka 2013/14 na nataka kujiunga na chuo hicho kusoma mojawapo ya course hizi kwa ngazi ya bachelor; Project Planning and Management, Community Development, agrobusiness, Development studies au Development Planning! Kwa mwenye taarifa zozote kama chuo hiki kinatoa mojawapo ya course hizo hapo naomba anijuze tafadhali!</p> <p>Responses 3 all positive 1 neutral had no information</p>
19	<p>Wadau naomba kufahamu mtu akisoma open university soko lake la ajira likoje? Nafikiria kusoma BBA with Finance hapo open university, msaada tafadhali.</p> <p>Attracted 7 all positive</p>
20	<p>naomba kujua ada za out kwenye website yao hawajaandika hasa hasa Msc.in mathematics</p>

	attracted 7 all advised the person to visit center
21	<p>Master's ya open university</p> <hr/> <p>vigezo gani kujiunga na open university of tanzania</p> <p>4 responce one negatively</p>
22	<p>wakuu mimi nashida ya kufahamu kuhusiana na open university ndiyo vyuo gani hivyo?</p> <p>19 responce most of them attacking him for what they regarded as ignorance</p> <p>But one reacted</p> <p>Huyu ndugu ana swali la msingi sana ila watu wamemuelewa vibaya tu.</p> <p>Mkuu ninachojua open university ni chuo kikuu kama vingine ila tofauti na vyuo vingine ni hizi hapa</p> <p>(a) Kwanza lecturers mnatafuta nyie wanafunzi, mnajioganize wanafunzi wa hiyo program na kumtafuta huyo mwalimu, pesa mnamlipa nyie, chuo hakihusiki. Huyu lecture anaweza akawa hata na degree moja</p> <p>(b) Kuna maximum year ya kusoma kwa kila program, kwa mfano kama program ni ya miaka 3, unaweza soma hadi miaka 7</p> <p>(c) Hakuna vipindi vya kuhudhuria darasani, unaweza ukajisome mwenyewe tu</p>

	na wala hutaauliza na chuo
23	<p>Ushauri; Masters ya Open University of Tanzania</p> <hr/> <p>JF members heshima kwenu.</p> <p>Mi ni mwajiriwa wa serikali kada ya uasibu na nipo mkoani sehemu ambayo siwezi kusoma jioni na mbaya kutokana na nafasi yangu ya kazi kwa kipindi kirefu nimetaka kwenda shule kama Mzumbe nikanyimwa ruhusa licha ya kutimiza vigezo vya kwenda shule.</p> <p>sasa nimeona nazidi kuuweka usiku ukizingatia uwezekano wa kupata ruhusa ni mdogo natoka nisome open university kama long distance naomba kushauriwa kwa mambo yafuatayo.</p> <p>thamani ya chuo serikalini/ubora wa elimu</p> <p>kutambulika cheti kwenye vyuo vingine</p> <p>na mambo mengine ambayo unaona yatanifaa</p>
24	<p>Jamani...out vipi hawajatoa majina ya kujiunga na masomo mwaka huu..2013/2014?..nina ndugu yangu anaulizia</p> <p>Attrcted 3 positivwe that first batch relseaed</p>
25	<p>Nimemaliza diploma of Business Adm..Nataka nijiunge na OPEN UNIVERSITY,je ni sifa gan ninatajiwa kuwa nazo ili niweze chaguliwa kujiunga na OPEN UNIVERSITY kwa ajili ya masomo ya degree?</p> <p>Attracted 5 responses</p>
26	salamu ndugu, mwenzenu natafuta compani ya kusoma nayo course ya

	<p>postgraduate diploma ya education. kama mpo tuwasiliane tafadhali, si mnajua tena umoja ni nguvu? hivi kuna chuo kinatoa full time ya course hii?</p> <p>When one responded that you have already secured a place at OUT he resonded</p> <p>Re: Open university.</p> <hr/> <p>ndiyo shida ya open materials na discussion group hakuna huku kwangu. vipi udsu watakuwa bado wanapokea maombi kwa sasa?</p>
27	<p>jamani wasomi wa open mko wapi?</p> <p>11 reponded 1 negatively</p>
28	<p>WALE WANACHUO WA OPEN UNIVERSITY WANAOSOMA UNDERGRADUATE NA FOUNDATION STAGE WANAOTAKA LECTURE KATIKA ACCOUNTANCY , AUDITING AND BUSINESS MATHEMATICS WAWEZA KUWASILIANA NA MIMI KWA EMAIL IFUATAYO</p> <p>Attracted 7 responses – 5 regarded the offer as devaluation of high learning education 2 supporting the idea inquiring where they could find the service</p>
29	<p>Heshima waungwana!</p> <p>Tafadhari nlikuwa naitaji kufahamu gharama za master degrees course(MBA) inayotolewa na open university of Tanzania, muda wa course na competence ya course yenyewe kama mtu anayegraduate hiyo course anakuwa katika sehemu moja kiuwezo na yule ambaye amesoma mzumbe na vyo vingine na</p>

	<p>vile wote wanavyochukuliwa kwenye soko la ajira</p> <p>No response</p>
30	<p>Hawa jamaa wa Open Univ of Tanzania wanatoa elimu taabani sijapata kuona yaani ukiangalia walimu wao, wanafunzi wanaojiunga hapo (sifa za kujiunga OUT)miundo mbinu ni shidaaaaa....!!! kijana kama unataka kujifunza vitu na kujiongezea maarifa ya kujiajiri au kuajiriwa usijichanganye Open University of Tanzania. Angalia graduates wengi wa OUT wanavyokwepwa na Waajiri maana wanakuwa hawana lolote.</p>
31	<p>Walisema ni chuo cha wazee, ila ni chuo bora sana. Nafurahi na najivunia kuwa mwanafunzi wa chuo kikuu huria.</p> <p>Attracted 12 – 3 negatively</p>
32	<p>Re: Open Univ & Utoaji Elimu Duni</p> <hr/> <p>ningependa kujua walau yafuatayo; kuna mazingira gani yaliyotengenezwa na chuo walau wanafunzi wake wawe wanakutana kubadilishana mawazo katika nyanja zao wasomeazo? Ubora wa ma-lecturer nadhani sina wasi wasi sana kwa kwani nina prspectus yao inaonyesha staff yao imekula kitabu si mchezo na tena vyuo vya nje vikubwa vikubwa tu! Tuanzie kwenye hilo swali mkuu!</p> <p>Kwanza kuna Face to Face, hiki ni kipindi maalum ambacho wanafunzi wote hukutana na pia ndiyo fursa ya kukutana na kuwafahamu walimu wa masomo yao.</p> <p>Kuna maktaba na mazingira mazuri ya nje ya kusomea, vituo vingi kama si vyote wanafunzi hukutana jioni kwa ajili ya discussions wengine weekly na</p>

	<p>wengine daily kuenda na nafasi za majukumu yao!! Mfano mzuri ni Kituo cha Kinondoni, kuna vimbwete, matent, maktaba, madarasa so nyie mnachagua mkutanie wapi!! Nilifika Iringa napo pako poa sana, Kilimanjaro, Morogoro na n.k.</p> <p>Clubs, siku hizi kumeanzishwa clubs zinazowafanya wanafunzi kukutana na kuwa kitu kimoja lakini zaidi ni kufanya presentations za mambo mbali mbali ili kuwajengea wanafunzi uzoefu wa kusimama mbele za watu. Kuna clubs za magonjwa kama HIV club na kuna clubs za masomo, kuna clubs za post graduates, non degrees na undergraduates na pia kuna clubs za faculty.</p> <p>Lakini pia nasi tuna michezo na mashindano mbali mbali!! Nadhani umeshawahi kusikia habari za miss Open University, sport bonanza hufanyika kila mwaka mara mbili na inajumuisha wanafunzi na watumishi wote.</p> <p>Ni raha sana kuwa mwanafunzi wa OUT, karibu sana bro</p>
32	<p>Je, bachelor of science with education open university ntapata mkopo kweli maana ndo nimechaguliwa icho chuo wakuu</p>
33	<p>Nasikia masters za open university kwenye anga za kimataifa haitambuliki na haina soko.</p> <p>Hizo ni tetesi tuu mwenye more info atupie humu.</p> <p>13 responses all clarifying the mode of learning showing that it is no different to conventional learning mode. All indicated that the degree is strong and has market value.</p>

34	<p>Ubora wa "Open University of Tanzania"</p> <hr/> <p>Habari wana "Great Thinkers",huwa naskia maneno mengi sana kuhusu Open University,actually mengi huwa si mazuri sana na leo nimeona nilete humu Jf nina uhakika nitafahamu ukweli kuhusu hiki chuo,ningependa nifahamishwe yafuatayo:</p> <p>1.Ubora wa hiki chuo na ubora wa degree zao kulinganisha na vyuo vingine</p> <p>2.ubora na uwezo wa wanafunzi wao waliohitumu hiki chuo hasa wakiwa kazini na maeneo mengine</p> <p>Ni hayo tu wakuu nilipokosea mnirekebise</p> <hr/> <p>20 responses</p> <p>I no longer look down at those who did not study at UDSM we are 57 not among us is from UDSM</p> <p>One detailed response</p> <p>Kama huwezi kujitafutia walimu na in mvivu wa kujisomea mwenyewe open utatoka huna kitu kichwani, kitu wanafunzi wengi wanapata tatizo nalo, lakini mitaala yao ni mizuri kama kawaida na wana manuals nzuri,ukitaka kusoma hapo lazima ujipange kutumia muda wako vizuri. Hakuna mtu atakukumbusha leo kuna kipindi njoo darasani, Mfano kuna wanafunzi wa sheria ambao walienda law school na walifanya vizuri kupita wale wa vyuo vingine. Pia wana library Ina vitabu vizuri sana. Wanafunzi wanaoona pagumu ni wale wanaoshindwa kuwatumia walimu wa pale vizuri. Ukitaka tatizo eneo Fulani wanakusaidia kukufafanulia.</p>
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Wako wengi makazini na wanafanya vizuri tu. Ila mpaka umuulize ulipata wapi degree yako kitu ambacho si rahisi.

1. Huwa nalinganisha wanafunzi wa OUT na kuku wa kienyeji (wanaojitafutia chakula wenyewe) kuliko kuku wa kigeni - wanaofugwa - (wanaopewa chakula muda ukifika).

2. Ukisoma OUT nilichojifunza ni kwamba hakuna kulala - yaani, kama huna culture ya kujisomea na kutawala vizuri muda wako huwezi kufaulu maana kila kitu kinategemea bidii yako ya kukitafuta.

3. Mimi pia nasoma OUT na ninachokifanya ni kupata 'course outlines' ya masomo ninayoyachukua na kuona ni vitabu gani nihitaji na natafuta fedha na kuvnunua vitabu na materials mengine (sheria nyingi au case laws nazipata kwenye mtandao). Kutokana na 'workload' yangu sipati muda wa kwenda 'tuition'.

4. Actually, niliacha kwenda tuition kwa maana siku moja jamaa mmoja alikuwa akitushawishi tumhonge mwalimu hela eti atufanyie assignments akidai "kusoma kwa siku hizi ni tofauti na zamani. Siku hizi tunasoma ili kupande cheo na kupata mshahara mzuri na siyo kuelewa. Huyu njemba aliwashaiwshi karibu asilimia kubwa ya darasa na siku waliyopanga kupeleka hizo fedha nikaona nikienda wanaweza kudhani nawachimba mkwara maana sikuwa tayari kuoneshwa assignment bali nilitaka nijipime mwenyewe kuliko kupata maksi ambazo sistahili.

5. Hii ilinifanya niwe negative kuhusu tuitions na tangu siku hiyo siendi tena na wala sidhani kama nitaenda hata siku moja.

6. Wapo na wanafunzi wengine waliosusia na huwa tukikutana tunajikumbusha "eti hata assignement watu wanataka waoneshwe na test au

	<p>mtihani itakuwaje?"</p> <p>7. Mimi nimejiwekea utaratibu wa kusoma kila siku nikiwa kazini (muda ambao sina kazi ya kufanya) na nyumbani. Nimejipangia ratiba yangu kuwa baada ya masaa ya kazi nafika nyumbani, napumzika na kisha nalala masaa 6. Yakiisha naamka na kuanza kusoma hadi muda wa kwenda kazini tena siku inayofuata. Nina muda wa kupumzika (kwa maana ya ku'relax' pia na kufanya mazoezi nisije nikawa 'anti-social'). Huenda ratiba yangu ni tofauti na ratiba za watu wengine. Naingia ofisini mara nyingi saa 4:30 (asubuhi) na kutoka saa 2:00 au 3:00 (usiku). Kama ningekuwa natoka nyumbani saa 12:00 au 1:00 asubuhi na kurudi saa 11 jioni ningepanga ratiba yangu pia inipe muda wa kupumzika na masaa 6 ya kulala usingizi. Hii ni nzuri kwa afya.</p> <p>8. Kwa hiyo, achana kabisa na watu wanaodhani kiwango cha elimu OUT kiko chini maana inategemea mtu mwenyewe na jinsi anavyo'manage' muda wake. Hata kama ukiwa kwenye chuo bora kiasi gani kama wewe mwenyewe hujitumi haikusaidii kitu. Inabidi kufanya 'sacrifices' otherwise itakuwa vigumu kufaulu. Kitu kingine ni kwamba ukisoma kwa kuwategemea sana walimu unaweza kuwa 'disappointed'. Inabidi uwe kweli na 'discipline' ya kupanga na kutekeleza mipango yako mwenyewe kwa asilimia kubwa kama unataka kufaulu OUT.</p> <p>9. I really like kuwa kama kuku wa kienyeji kwa maana katika kujitafutia chakula mwenyewe nagundua vitu vingi, ambavyo kama ningekuwa kwenye conventional unviversity nisingeweza kupata. Lakini mimi tangu zamani ni mtu ninayependa kujisomea peke yangu. Huwa ninatumia kanuni kwamba</p>
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	<p>kama mwalimu amesoma kitu fualni na kukielewa na kisha kutufundisha kwa nini mimi nishindwe kukielewa nikikisoma peke yangu? What's wrong with me? Hii inanifanya nisikate tamaa niendeleo kutafuta "chakula" hadi nipate!</p> <p>10.OUT inafunza bidijii ya kujituma na kuwajibika maana bila ya kufanya hivi hakuna kufaulu!</p>
35	<p>Ndugu naomba msaada kuhusu hili,nimemaliza kidato cha nne miaka minne ilopita na nikapata daraja la nne pointi 29 Kwa mchepuo wa sanaa.ninahamu kubwa ya kujiendeleza kielimu hasa kupitia chuo kikuu huria ila sijajua kozi watozo pia gharama zao zkoje kwa ngazi ya cheti manake ni lazima nianzie hapo.Hvyo mwenye taarifa kamil kuhusu chuo tajwa anisaidie</p>
36	<p>UTAFITI: Hakuna wa USDM, SAUT, SUA N.K wote ni walewale, Tuwapongeze OUT</p> <p>kumekuwepo na malumbano siku nyingi kuhusu suala la elimu Tanzania, hususani katika vyuo vikuu. Ifuatayo ni sehemu ya utafiti wangu someni na mtoe maoni. Utafiti wangu ulilenga makundi mawili ya vyuo, Conventional and non-conventional universities. Kwa maana ya vyuo vyote vinavyotoa elimu kwa mfumo wa "Full time administration" na zile zinazotoa mafunzo kwa njia ya masafa - Open and Distance Learning (ODL). Utafiti wangu ulilenga kujua mambo makuu matatu:-</p> <p>(i) Consistency of academic competency of both undergraduate and post graduates from Tanzanian Universities(Note: Public and private, conventional and non-conversational)</p> <p>(ii) the potency (Power) of the GPA to activate academic competency of the Tanzanian University Graduands</p>

(iii) the identification and appraisal of the learning's methodologies and techniques used by Tanzanian Universities.

Hii ni sehemu ya majibu ya utafiti wangu... mkihitaji zaidi nitawatumia;

1. Watimu kwa asilimia 82 wa vyuo vyote wa serikali na binafsi wanamaliza elimu ya chuo kikuu wakiwa hawana uwezo mzuri wa kutumia maarifa na ujuzi wao walioupata chuoni. Wahitimu walioongoza kwa mapungufu haya ni wale wanaosomea UALIMU. Utafiti umeonyesha kuwa aliyemaliza DIPLOMA ya ualimu anakuwa na uwezo mkubwa kutumia maarifa yake katika kufundisha. Utafiti, umebaini kuwa waliowengi wao, hujifunza kwa ajili ya kujibia mitihani tu!

2. Watimu wa ngazi za degree za uzamili na uzamivu wameonyesha udhaifu mkubwa katika kuandaa" Thesis au Dissertations zao" . Wengi wao wameonyesha kufaulu kwa kiwango cha juu kwenye vyeti, lakini hawanaufahamu wa kutosha katika kuandaa kazi hii ya kitaaluma! Hii ni vyuo vyote vya Conventional.

3. Utafiti ubaini kuwa hakuna uhusiano wa moja kwa moja uliopo kati ya GPA ya mtihimu na uwezo wake wa kitaalum katika kuchanua mambo. Pia imeonekana kuwa hakuna uwiano au uhusiano ulipo kati ya the same degree kutoka chuo A na chuo B.

4. Hakuna uhusiano uliopo katika ya uwezo wa mwanafunzi na Ukubwa wa chuo, japokuwa upo ushahidi kidogo kuwa vyuo vidogo vinaonyesha kuwa na

GPA kuba zaidi kwa watimu wake kuliko vyuo vikuu vikubwa

4. utafiti umeonyesha kuwa wanafunzi wanasoma kwa mfumo wa ODL wanakuwa na uwezo mkubwa sana kitaaluma, lakini wanakuwa na GPA kidogo kwenye vyeti vyao. Wanafunzi hawa wanaaminiwa sana wanapokuwa kazini.

6. Vyuo vya conventional vinaongoza kwa kutoa watimu wasiokuwa bora na kushindwa kushindana katika soko la ajira. Vyuo vya ODL Vinatoa wahitimu wenye GPA kidogo lakini wenye umahiri katika taaluma zao.

TATIZO: 1. Mifumo mibaya ya ufundishaji katika vyuo vyetu, wanafunzi muda mwingi ni kuhudhuria mdaharo (Lecture) hawana muda wa kujisomea na kutumia maktaba zilizopo. Maktaba zinatumika tu wakati wa assignment au kwa kile wanachokiita "AREA of concentration". Kauli hii haipo kwa mfumo wa ODL, na hivyo kuwafanya wanafunzi wa ODL kujisomea mambo mengi kwa wakati wao.

2. tatizo la rushwa ni kubwa sana kwa ngazi ya degree za uzamivu na uzamili. Imebainika kuwa asilimia kubwa ya watimu wa vyuo vikuu katika ngazi ya uzamili na uzamivu, wanatumia RUSHWA kupitishiwa TAFITI zao. Hii inatokana na mfumo mbaya wa kua-assess kazi hizo.

Yes, Thanks a lot for your constructive reply, well educated!

Mkuu utafiti wako una make sense ingawa kwa hali ya kawaida huwezi kufananisha performance ya mtu mwenye GPA ya 4.5 ikazidiwa na mwenye 2.0. Hata hivyo, ili matokeo yako yawe relevant, ni muhimu tujue methodology ulizotumia kukusanya data. Tunahitaji kujua Control na

	<p>Variables, sampling techniques, namna ilivyo-establish cause and effect kati variables na matokeo uliyoyapata na kadhalika.</p> <p>Hata kama umesema takwimu/data umezificha kwa makusudi, bado tukijua mbinu ulizotumia mtu unaweza kupima validity na reliability ya unachosema. Tafadhali mkuu.</p> <ol style="list-style-type: none"> 1. Hatujui sample size kwa kila chuo ilikuwa ngapi na uliipataje 2. Wanafunzi wengi wa ODL ni wafanyakazi wenye experience tofauti na hawa wa vyuo vingine-sijui ulilikumbuka hilo? 3. Tofauti katika ya graduate chuo kimoja na kingine liko wazi hata graduate wa MBA wa New York State University siyo sawa na wa MIT kwa kozi hiyo hiyo <hr/>
37	<p>Open University of Tanzania kwa masomo ya practical utaratibu ukoje?</p> <p>Napenda kuulizia utaratibu wa usomaji kwa masomo ya practical unakuwaje kwani ninapenda kusoma UWALIMU teachings subjects ni Physics na Mathematics.</p> <p>Pia kipindi cha mtihani kwa somo la practical unakuwaje kwa sisi tuishio Dodoma? Maabara za Physics zipo kwenye Centre?</p> <p>Naomba msaada plz.</p> <p>No response</p>

Appendix Q : Mzumbe University Jamii Forum content review extracts

Post no	DISCUSSION THREADS
1	<p>1. 🗨️ Masters degrees za Mzumbe University zinaua ubora wa elimu</p> <p>Nawaomba uongozi wa Mzumbe University mfikirie upya hizi degree za masters mnazozitoa huko mitaani/Centres za mikoani. Mnaua ubora wa elimu nchini. Si jambo jema academically, mtu wa Advanced diploma kusoma masters bila basic degree! Nimeona products wenu wana mapungufu mengi! unawaona kabisa kuwa kuna vacuum upstairs with regard to professionalism worth of Masters degree level. Re-think your programme.</p> <p>Sasa mmebatizwa kwa kuitwa "MAHARAGE YA MBEYA" kuwa yanaiva haraka/mapema! Nipigeni madongo, lakini ngoja niliseme</p> <p>Ni kweli mkuu, Master bila degree ya kwanza ni ulipuaji wa elimu kabisa. Mtu atoke diploma kisha aende Master bila degree ya kwanza ni ubabaishaji mkubwa</p> <p>Unachokisema ni sahihi kabisa mkuu, lakini kwa uelewa wangu kila chuo vikiwemo vyuo vinavyoheshimika kwa mfano University of London, University of Liverpool na vinginevyo huwa pia vina pokea wanafunzi wa Masters kwa kuzingatia sifa za uzoefu wa kazi na sifa zingine kwa wale wasio na first degree, japo wanakua wa wazi kwamba hiyo ni case</p>

by case sio kwa kila mtu.

Kwa hiyo hilo la kupokelewa Masters bila Degree ya kwanza sio kosa na wala sio geni na Mzumbe sio wa kwanza kufanya hivyo japo sijui wanatumia utaratibu gani kujiridhisha na watu wa aina hiyo.

ESAM, issa matea, MIDFIELD and 2 others like this.

hivi bill gates akienda chuo chochote duniani wanamuweka darasa gani.. certificate, degree, masters, phd au?

experience ina value sana kuliko elimi ya makaratasi..

wazungu wanasema experience ni best teacher

Na kuna vyuo vingine hawakupokei kwa Masters kama hauna experience ya kazi japo mwaka mmoja au miwili hata kama una first degree.

But how do you impartially assess this experience? And while you are attempting responding to me think about this "uchakachuing" tendency that (am sure you'll agree) is prevalent in our country! Ila Nakubaliana nawe ndugu yangu kuwa experience is very important kuliko vyeti, lakini pia nawapinga wanaotetea vyeti kwa kisingizio cha kuwepo measuring standard kwa kuwa vyeti vinanunulika.

Mimi sijasoma mzumbe lakini sioni mantiki ya suala hili. Mbona hujaanza na mfumo mzima wa elimu kuanzia mitaala ya shule za msingi uliopiteza uelekeo? Ni chuo kipi unadhani kinatoa product nzuri kipindi hiki, UDSM? No way, graduates mpaka wa PhD wengine ni very short sighted na hawana

jipya. Ndio sababu wanakimbilia politics tu. Hili ni janga kila sehemu sio mzumbe tu. Kidoogo quality bado ipo SUA.

kwani Bill Gate anaebdesha mwenyewe biashara zake au anatumia watu mbalimbali wenye professional tofautitofauti?

Wabongo bhana! Kwani we unafikiri ni Mzumbe peke yake? Hujui kua adv dip ni equivalent to degree? Japo baadhi ya vyuo wanakutaka uwe na post graduate tu ndo ukapige masters. Kosa liko wapi kwa mwenye adv kusoma masters? Mfano kwenye accounting kusoma adv dip na degree hakuna tofaut, tofaut ni jina tu. Ila koz kama medicine tofaut ni kubwa.

Tatizo lako umekariri kwamba unapaswa uwe na degree ya kwanza, kisha uzamivu, kisha uzamili. UDSM (ambayo naamini kwa akili yako ndo unapaabudu) unaweza kupata PhD bila kuwa na Masters. Kama bado umejaza kamasi kichwani tafuta cv ya Dr Slaa utapata ahueni maana hana hicho kinachoitwa degree ya kwanza au ya pili. Acha kukariri!

Kwa hiyo mtoa mada tatizo lako ni advance diploma kusoma masters, mi nafikiri unalalamikia contents and quality ya masters za Mu, kama advance dip hawako vizuri si wangepeli kwenye masters.

Bachelor degree sio kigezo, kuna watu nawafahamu A-level walikuwa na div 1 ya pt tano na kuendelea walisoma IFM na wengine wako sehemu muhimu kama EY PWC na BoT na Govt Kama MoF wanapiga hela tu sa we umemeza kuwa ili ufanikiwe lazima usome UD hiyo ndo inawafanya mtembee na bahasha sana na kuilaumu serikali, kijana amka fungua macho uangalie fursa nini Mzumbe kuchukua adv. Diploma kuna vyuo Uk

vinachukua ukitaka ntakutajia.

.....Bishaneni mkimaliza kila mtu ukweli atabakia nao ndani ya nafsi yake. Kwa mtu anayesoma Mzumbe ukieleza hiki kitu hawezi kukuelewa hata kiduchu.


Naweza kuamini kuwa Mzumbe katika ngazi zote wapo hivyo hivyo sababu viongozi/Wanasiasa karibia wengi wanaoonekana vilaza na wenye Masters na Ma- PhD utasikia kapatia Mzumbe (mfano Nape). Hata huku makazini ukifuatilia products za Mzumbe muda mwingine unafikiria mara mbili mbili kuhusiana na uwezo wa mhusika kama kweli alipita pita skuli au anazingua.

Kwa upande mwingine pia lawama ziende kwa serikali kama ni kweli kuna ubabaishaji katika utoaji wa elimu katika vyuo vya Mzumbe, hao walitakiwa kugundua hiyo kitu mapema.

Yote juu ya yote, elimu sio mrundikano wa vyeti visivyoendana na utendaji wako kikazi bali jinsi unavyoitumia ile elimu uliyoipata kukabiliana na maisha na kusaidia jamii au nchi yako kuondokana na changamoto za maisha.

.....Ni mtazamo tu!!

Labda mimi sielewi, nina mdogo wangu mmoja kamaliza degree ya uhasibu pale ifm ila hakuweza kupata uppersecond (alikuwa na lower seond) kanyimwa kufanya masters Mzumbe, ina maana kaonewa ama wamefuata taratibu? Iweje advn diploma apate nafas ya kufanya masters km haqualify? Acha wivu wa kitoto utaishia kusema wenzio wanapata kazi sehemu nyeti

	<p>serikalini ww unahangaika kufanya kazi za ajabuajabu, soma course itakayokusaidia na pata matokeo mazuri utafurahia maisha!</p> <p>3.Naona aibu kusema nina masters ya Mzumbe</p> <p>Mkuu embu pitia huo uzi!!!</p> <p>Cc joshua_ok bdo leonk na wengineo..</p> <p>Possibly hujui hata CAG wako alisoma advanced diploma mzumbe!</p> <p>Tuwe na discussion ya kuelimishana. Usitukane. Nimetoa ninachokiona ofisini. Sijui Bunju ni nini lakini unajaribu kutukana (Mimi nimemaliza basic degree 1980 UDSM, sijisifu ila naona mapungufu). Mimi naona graduates wa hizo masters wanatia mashaka sana. Tunao maofisini can not even make a good english sentence, hao wa advanced diploma! Kuna ambao wana Basic degree, unaona kuna tofauti kubwa, they are doing good.</p>
2	<p> Re: Masters degrees za mzumbe university ni kuua ubora wa elimu-janga la kitaifa</p> <p>2. Shikamooni wakubwa!!! lakini mi niko at 30's yrs!!!</p> <p>Jamani nna B.A.ACCOUNTING AND FINANCE..... naomba msaada wenu nishauri masters mzuri, iliyosokoni nikasome.....</p> <p>MBA(CM), MSC. ACCOUNTING & FINANCE, MSC. PROCUREMENT, MSC. ECONOMICS & FINANCE FOR DEVELOPMENT(hii nimeipenda lakini hayo maneno ya mwisho FOR DEVRLOPMENT yananipa kichefuchefu)</p>

nasubir maoni yenu wakuu..... hizo yoyote naweza kufit....

Naomba kukupa tahadhari kuwa usisome kitu kwa kuwa umeambiwa na fulani. soma kwakuwa hicho kitu unakipenda na kwanini unakipenda unajua wewe. Definition ya kozi nzuri au yenye soko nikikupa humu nitakupa kulingana na ninavyojua mimi siyo kama unavyofahamu wewe. Nakushangaa unamiaka 30 halafu bado hauwezi kuwa na msimamo kuwa unataka nini au wewe unataka kuwa nani! ulivyochagua kusoma digrii ya kwanza ulikuwa na sababu gani?je, hiyo au hizo sababu sasa hazipo tena?je, unataka kubadilisha field, kwa nini, na unataka nini? maswali hayo yanaweza kukusaidia kupata kitu cha kusoma.

Watanzania wengi tunasoma bila malengo ndo maana hatufanikiwi. Mtu anasoma Eng.,then PGDE, then MBA ... sasa hapo wewe unakuwa mtaalamu katika fani gani?tukuita eng., au Mwl>>< au accountant?..

Ni ushauritu, usinishambulie tafadhali ila kama ni kwa hoja karibu. naogopa wengi humu ni waporomoshaji wa matusi badala ya hoja.

masters za mzumbe hapana

C ukasome udsm mkuu,au bachelor yako haina upper second?

pale UDSM masters yao ya MBA wanachukua hadi GPA YA 2.6..... fungua intake hii uangalie!""""

ctaki kabisa UDSM, CKIPEND HIKI CHUO!!!!""""

👤 By Skills4Ever ▶

Kutegemea na kazi yako ya sasanakushauri soma MSC. ACCOUNTING & FINANCE, ila pia jitahidi sana uje upate accia kama uko nondo pambana na cpa ya hapa tz!!zitakuja kukulinda na kukutoa big time!ushauri wangu tu!!

thanks, lakini coz nyingi ama zote nimesoma tayari..... cpendi kuridia yaleyale..... nataka new skills, loooh!"!""

👤 By Pasco_jr_ngumi ▶

pale UDSM masters yao ya MBA wanachukua hadi GPA YA 2.6..... fungua intake hii uangalie!"!""

ctaki kabisa UDSM, CKIPEND HIKI CHUO!!!!!"!""

Ndio maana ukachagua Mzumbe sababu kichwa yako haifit UDSM ungejua wameshusha hiyo GPA wakijua wataaply ila hawatavuka first semester maana wengi vichwa havina Hesabu (QM) inawakimbiza alafu walivyo business oriented supplimentary zao ni mpaka ufike mwisho unakuwa umelipa at least 3QRT ya ada.

Kwa akili yako nenda Mzumbe tu utamaliza

senk yu

.....

sasa bachelor nimetaabika na masters nayo, loooooohhhhh!!!"!"""" watu tunataka mapumziko college!!!!

We never really grow up, we only learn to act in public.

👤 By Pasco_jr_ngumi ▶

Ndo walewale mteremko dot com ambao mnasababisha uchumi wa nchi kushuka kutokana na utendaji finyu na uliojaa woga yote hii ni kwasababu hutaki kupata changamoto ya ubongo wako. Sasa wewe ni kilaza kwa ujumla unataka gamba la Master degree well Mzumbe you can get hata usipojiregister au hata usipokuwa na background ya degree ya kwanza nina ushahidi huo.

Wallahi ningekuwa sekta ya kazi na ajira watu kama nyie mngetafuta pa kukimbilia mnadhalilisha wasomi na kushusha hadhi ya nchi.

Nakushauri uende Open kama unataka kwa design yako..Mzumbe tatizo wanafunzi ni wengi sana kiasi haindani na miundombinu iliyopo pale town. Labrary ya watu 50 wanafunzi intake 1200..haingii akilini..

haaaaa.... nikikosa Mzumbe ni UDOM..

. haaaaaaa



Ila kwel,kwa kichwa yako ilivyo,bora uende mzumbe tu,mziki wa udsu hutauweza kabisa.



👤 By Senetor ▶

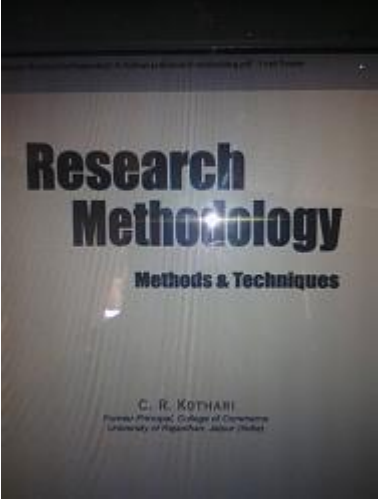

C ukasome udsu mkuu,au bachelor yako haina upper second?



Wewe huijui mzumbe nini? nani kasema ukiwa na lower second unaweza kuingia mzumbe? Waulize wanaosoma UDSM kama hawakutangulia



	<p>kukosa Mzumbe.</p> <p>Kwa ushauri wangu mtoa mada akasome MSc Accounting & Finance lakini ahakikishe ana GPA ya kuanzia 3.7 kupanda vinginevyo akikosa asilalamike. Swala la GPA alizingatie bila ya kuangalia propaganda za baadhi ya watu maana Mzumbe bila GPA ya uhakika ataisikia bombani kwani competition ni kubwa.</p> <p>👤 By Senetor ▶</p>
4	<p>5. 🗨️ Kwa wale wa mzumbeni</p> <p>Mnakaribshwa wote kwa wale waliochaguwa Mzumbe kwa acourse mbalimbali Administration, Social science, bussines, economics na law. Karibuni Moro km20 from Moro mjini, friendly environment for studying. Ushauri tu atandaa nguvu ya kusoma, kunywa maji mengi. Karibu sana wanaokuja kusoma BAF. Mnapenda kujua nini kuhusu MU niulize Welcome MU (Military University)</p> <p>Posts 64</p>
5	<p>6. 🗨️ Mzumbe joining instruction</p> <p>[IMG]file:///C:/DOCUME~1/ADMINI~1/LOCALS~1/Temp/msohtmlclip1/01/clip_imag e002.gif[/IMG]</p> <p>MZUMBE UNIVERSITY</p> <p>(CHUO KIKUU MZUMBE)</p> <p>E-mail: mu@mzumbe.ac.tz P.O.BOX 1</p> <p>Tel: +255 (0) 23 2604380/1/3/4 MZUMBE</p>

	<p>Fax: +255 (0) 23 2604382 MOROGORO, TANZANIA</p> <p>Resp 11</p>
6	<p> Nafasi za kazi Mzumbe University</p> <p>Habari wakubwa,</p> <p>Hope tunaendelea kuparangana na kutafuta...Embu tucheck na hapa!!</p> <p>Vacancies August_2014.pdf</p> <p>Asante, hvi PUTS 1 ni kiasi gani vile</p>
7	<p> Wanaotafuta ajira</p> <p>Mzumbe univ. kuna vacant posts hizi. Tafadhali tuombeni na kuwajuulisha wengine. 1. Assoc. Prof. 2. Senior Lecturer (3 posts), 3. Lecturer (14 posts), 4. Ass. Lecturers (22 posts), 5. Ass. Librarian (2 post), 6. Tutorial Ass. (5 posts), 7. Librarian Trainee (2 posts), 8. Senior driver grade II (2 posts), 9. Senior Human resource officer (1 post), 11. Director of Planning (1 post), 12. Director of Human Resource and Administration (1 post), 13. Principal office ass. (1 post), 14. Record Mgmnt ass. (1 post), 15. Senior internal auditor II (3 posts), 16. Office mgmnt secretary (1 post), 17. Procurement officer (2 posts), 18. Accountant grade II (4 posts), 19. Ass. accountant II (6 posts), 20. Senior artisan (2 posts), 21. Pharmaceutical ass. (1 post), 22. Pharmaceutical technician (1 post), 23. Senior librarian ass. (4 posts), 24. Library ass. I (8 posts), 25. Library ass. II (4 posts), 26. Health attendant II (1post), 27. Driver grade I (1 post), 28. Office ass. I (2 posts). Tuma maombi yaka at: dvc-af@mzumbe.ac.tz. Tafadhali kwa maelezo zaidi</p>

	tembelea tovuti ya mzumbe. Deadline ni kabla ya 19/09/24Wa shukran
8	<p>Kitabu cha research</p> <p>Habari wana-JF!</p> <p>Natumai mko vema. Ninataka kufanya utfiti fulani kuhusu masuala ya manunuzi y umma (Public Procurement) nchini, sasa nilikua nahitaji kitabu kizuri kinachoelezea namna ya kufanya research na data analysis kwa ujumla. Nilikuwa nakifahamu kitabu kimoj hivi kimeandikwa na mhindi lakini nimesahau title yake na jina la muandishi vilevile.</p> <p>Hivyo basi, naomben msaada wana-JF yeyote anayefahamu kitabu hicho cha research anifahamishe tafadhali!</p> <p> Re: Kitabu cha research</p> <p>Vitabu vizuri vya reseach ni: Research Methodology written by: Chrishnaswami & Research methodology written by Kothari.</p> <p>nahitaji kujua title tu mkuu</p> <p> Re: Kitabu cha research</p>

	<p>mkuu icho hapo</p>  <p>Attached Thumbnails</p>
9	<p> Special thread: Accountants, Auditors and Tax professionals</p> <p>Wanajukwaa,</p> <p>Hapa ndipo tutakua tukishauriana na kupeana habari za mambo tuliyosomea.</p> <p>Karibuni wadau.</p> <p>Last edited by Allen Snr; 26th September 2015 at 23:39.</p> <p>Responses</p> <p>Mkuu uzi nzuri sanaa Idear nzuri</p> <p>Bcom-Finance kama ulifanya option za module za A/c unahusika pia</p> <p>I have Advanced diploma in Financial Administration – Accounting</p>

	<p>Mnashusha hadhi ya taaluma kwa kuandika kitoto kitoto! Tulioko kwenye industry hatuna mambo ya x ni ukilaza wa degree ya juu sana!</p> <p>Huyu bila shaka atakuwa demu first year. . . .hafahamu taaluma!</p> <p>Ndiyo wahasibu wapya hao, tuko nao maofisini. Hata kuandika email hawezi, anajaza x za kutosha. Kizazi cha kuanzia waliomaliza 2010 ni hatari sana, wana utoto mwingi sana.</p>
10	<p> Re: mzumbe vp??</p> <p>Wajumbe vp Mzumbe university hawajatoa majina ya waliochaguliwa kujiunga mwaka huu?</p> <p>4 reponses all negative</p>
11	<p> Mzumbe University (LSE) vs University of Dar-es-Salaam</p> <p>Naomba wana bodi tuchangie juu ya ubora wa vyuo hivi viwili, kulikuwa na mada siku za nyuma ikihusu vyuo hivi, lakini watu wa udsu walipoona wanazidi akina fikiraduni wakafanya ujanja wa kufuta mada ile ili kuhifadhi uozo na uchafu wa udsu kama vile kuwa na madokta feki akina NGIRWA,BAIS na Chijoriga.</p> <p>ndugu zetu wa udsu mada hii ina umuhimu mkubwa kwa taifa letu.</p> <p>pia kuna chuki za binafsi zilivumishwa kwa ma-lecturers wa Mzumbe na hata kudiriki kumzushia uongo Professor Warioba kuna ana phd ya uongo.</p> <p>mimi nina ushahidi wa kutosha kuwa mzumbe ina walimu bora na hodari na wenye sifa,</p>

	<p>imekuwa kila mwana udsm hata akichangia mada nyingine nitatajwa jina langu-kisa nimeeleza pumba za udsm.</p> <p>nawakaribisha tena akina FD na wana udsm wote mje humu tupambane kwa hoja na si majungu,</p> <p>Looks like Nungwi is back with vengeance, yaani wewe fact zote ulizopewa bado unaona kuwa ni majungu tu? by the way naomba Admin umerge hii thread kwenye ile ya Mzumbe ili tusipoteze facts</p> <p> Topic bado ipo hapa</p> <p>Baadhi ya Lecturers wa Mzumbe wana degree Feki - VC wao naye FEKI</p>
12	<p> What Makes Mzumbe University Most Appreciated in Tanzania</p> <p>According to the evaluation criteria, the Tanzanian universities are at good position to give out products which are competent and effective in the office. there is no University that tend to produce its graduates who remain useless in the society. it was Msolla's speech, this year, that all universities had to cogitate deeply the proper curriculums to ensure that their students achieve their own goals. following the previous debate that was dominated by MU Vrs. UDSM on forfeited doctorates, I have come out with another reason that makes to be Mzumbe one of the most preferred Universities in Tanzania, not only by prospective students but also by employees in different corners, despite that it is still one of the youngest Universities in Tanzania.</p>

	13 responses
13	<p>👉 Habari za kusikitisha mzumbe university</p> <p>Habairi zenu ndugu wapendwa wa jf,</p> <p>Nipo mzumbe university mwaka wa kwanza,chuo tumefungua rasmi tarehe 17th oct,na wanafunzi wengi wamefika tarehe hyo na kuanza mara moja kusajiliwa lakini cha wasiwasi zaidi ni kwamba tcu wameleta wanafunzi wengi sana ambao hawapo proportion na accomodation za chuo.Mpaka sasa wanafunzi zaidi ya mia 4 hawana makazi na kupelekea viongozi wa MUSO na kKupelekea viongozi kupita room mpaka room kuomba tubebane ili angalau tuweze kukizi maitaji.</p> <p>Kwa mazingira ya MU mtu wa kawaida huwezi kupanga nje ya chuo kwasababu gharama ni kubwa sana<wanachaji elfu tano kwa siku>.HALI ni tete sana kwani chumba kimoja kina vitanda vi 3 ambavyo ni doubledeck kwa sasa tunalala kitanda ki1 watu wa 2 thus ni hatari sana kwa afya yetu. Sababu wanazozitoa chuo ni za msingi sana kwani wanaeleza kama vigezo vingezingatiwa watu mbalimbali wasingekuwepo.</p> <p>16 reponses</p> <p>mbona kubebana ni jambo la kawaida tu....uliza udsu, huko hakuna haja ya viongozi kuomba mbebane...ni suala ambalo ni automatic, ukipata rum, asiye na rum anakutafuta unampa nusu bed...life goes on!!!!</p> <p>kama ni issue ya magonjwa, kwani kwenu hamjawahikulala zaidi ya mmoja kwenye bed moja? mliambukizana magonjwa?</p> <p>Acha ulegelege wewe. Wenzenu udsu wanabebana miaka na miaka. Sasa</p>



ulitaka hao wengine wasipate admission ili msome wachache tu kwa kujinafasi? Ilalamikie serikali kwa kushindwa kuboresha miundo mbinu kwa kuzingatia projections za udahili wa wanafunzi kadiri miaka inavyokwenda. Na si kuilalamikia TCU hapa, vinginevyo utaonekana ni mchoyo wa elimu.

labda wanapromoti mapenzi ya jinsia moja! imagine midume mizima inabebana...halafu kwenye vitanda vidogo vile..what do u expect?

wanajamvi huyu jama Rejao shoga nini? Mbona watu tumekua na hayo mazingira kitambo sana sana,vyuo kama udsu,ardhi,mu,muhas na sua hilo swala limezoeleka.Kingine mbona advance gvt school za bweni karibu zote huo ndio utaratibu wetu kubebana.Wewe kama unaelement za kike kuwa muwazi tukusaidie kuna majembe kibao tu humu.

Karibu elimu ya juu. Yaonekana hujui makandokando ya elimu ya juu nchini. Kwa taarifa yako hiyo ndiyo hali halisi katika vyuo vyote vikuu nchini. Accommodation ni kwa wenye disabilities na wanaotoka mbali wakiwemo foreigners. Wengine wakipata accommodation ni privilege siyo right. Soma vizuri joining instruction yako.

hacha u-braza men dogo, kama unata starehe kasomee kwenu! mbona jambo la kawaida kubebana? may b wewe utakuwa na magonjwa au roho mbaya au utakuwa haujatailiwa una soksi hivyo unaona haibu. usituletee malalamiko ya kipuuzi, usingechaguliwa ungelalamika eti wanapendelea, umepata bado unalalamika! tena inawezekana umetokea familia masikini unafika chuo unaanza majivuno! wacha ubwege wewe umeenda kusoma na si kulala!

	<p>Kwa waliosoma SUA kampasi ya Mazimbu hayo mambo yamezoeleka.</p> <p>Hiyo ndio Tanzania.</p>
14	<p> Shortlist mzumbe university</p> <p>Wana jf,habarin za wikiend,mwenye taarifa kuhusu zile nafas za kaz za kufundisha (TA,LECTURER) wameshaita interview? Mwenye kujua naomba atupashe habar</p> <p>Mda mrèfu..walianza ma-TA wa IT,wakaja wa Social science(HR and Sociology)....!una jingne?</p> <p>Ukisikia paaaa! Jua imekukosa. Pole sana kiongozi try again later!</p> <p>And 2 more reponses</p>
15	<p> Phd za Mzumbe University!</p> <p>Hizi Phd zina maana ?</p> <p>wewe una ya wapi?</p> <p>Jamani kama wamesoma na wakapata hizo PhD.Ni haki yao haichagui kapata kutoka chuo gani! Kwani hakuna Chuo maalumu peke yake cha kutoa PhD.Kasumba yakuangalia majina ya vyuo ilishapitwa na wakati; eti mimi nimesoma Makerere yule kasoma Dar au Havard.Kinacho ulizwa ni kiwango cha elimu uliyonayo au aliyonayo. Una Bachelor; Masters au PhD basi. Swala la kwamba shahada yangu ni bora kwasababu nimesoma Makerere na yako si bora kwa kuwa ulisoma Muzumbe; huwa halipo na ukiona mtu wa hivyo yeye ni kijiyo.Matunda na ubora wa elimu utaonekana uanovyoitumia hiyo elimu uliyonayo.</p>

Mimi suala linalonikera ni mtu kukubali kutumia Dr. kama raisi wetu wakati hajasotea hiyo PhD, kwanini asiwe kama Mwl. Nyerere ambaye alitunukiwa U-Dr. lakini hakutaka kutumia jina hilo, japo ali-deserve hata kuitwa Prof. Ndio maana mimi nimeamua nijitahidi hadi kufikia u-Prof kwakuwa najua sio rahisi mwana siasa kuitwa Prof. Aibu kubwa kuitwa Dr. wakati hata publication moja huna. Ningesauri wanaotunukiwa hizo degree za phil wasitumie hilo jina la Dr. Nawasilisha!!!

Additional 6 more responses

Appendix R : UDSM Jamii forum content review extracts

Post no	DISCUSSION THREADS
1	<p>hal mbaya jaman yeyote mwenye tetesi boom linatoka lini,Yaan</p> <p>nmexhindwa hata ku like page</p> <p>Mmesha sign kwan</p> <p>Dah polen!ila mtasaini tu vuta subira UDOM tumeanza kusaini leo</p> <p>mara hii tu limeisha..!?</p>
3	<p>Tetesi : Boom la sababisha kifo kwa first year udsr!!!</p> <p>By dawson02 in forum Jukwaa la Elimu (Education Forum)</p> <p>Replies: 18</p> <p>Replies: 1</p> <p>Inasemekana "mwanafunzi wa first year baada ya kuchukua boom lake akatokomea town kuzitumbua(akalewa chakali), akachukua malaya.baadae ya kumaliza kazi yao yule dada akamwambia kuwa yy ameathilika.basi yule kaka akachukua uamuzi wakujiua".....</p> <p>chanzo?? acha kuzusha wasomi hawatakiwi kuzusha...soma hapa...UDSM student hangs himself - ni wa Mwaka wa Kwanza, kisa majibu ya Daktari</p> <p>Last edited by Mkirua; 18th October 2012 at 12:16.</p> <p>acha upuuz ww lete habar kamili, sio mambo ya inasemekana, funguka</p> <p>Dah pole ila ni mambo ya kawaida saana hapa mlimani. Dah pole ila ni</p>

mambo ya kawaida saana hapa mlimani.

Very sad,yani year one tu.. Very sad,yani year one tu..

Hadithi!,,,,,Hadithi!,,,,,Had ithi njoo uongo utamu kolea!!!!

hapo zamani za karee kareee kulikuwa na siiiimba mkuuubwaaaa hapo

zamani za karee kareee kulikuwa na siiiimba mkuuubwaaaa

DSM huwa hawafanyi medical check up, wanakula hela hiyo ya chck up afu

wanafunzi wanaekewa its all clear(kuna kaufisadi kadogo sema ka kimya

kimya maana 5000 kila kichwa mara over 2000 people zinaenda kiulaini)

anyways Back 2 topic, nashindwa elewa jamaa hiyo chck up alifanyiwa wap,

cause seriously DSM HAWAFANYI CHECK UP KWA NEW STUDENTS

I KNOW THAT

Mkuu, kama wewe haufanyiwi medical check up, hiyo haizuii wengine pia

kufanyiwa. Sasa unaambiwa alifanyiwa na akapewa majibu hayo, unabisha

nini? Watu wengine mawazo mgando tu. Mkuu, kama wewe haufanyiwi

medical check up, hiyo haizuii wengine pia kufanyiwa. Sasa unaambiwa

alifanyiwa na akapewa majibu hayo, unabisha nini? Watu wengine mawazo

mgando tu.

Sijabisha Boy, nimetoa hoja ungekua huna hayo mawazo mgando

unayosema ninayo ungepinga kwa hoja, "...kama mimi sikufanyiwa check up

haizuii wengine kufanyiwa..." Hujui ulinenalo, Najua hilo swala cause i'm in

the system Boy naomba kijana wa DSM yeyote 1st or 2nd year aliefanyiwa

Check up baada ya kulipa pesa ya Afya ajitokeze nimjue. Again ni quote

vizuri kijana sikatai this tale and all nnachouliza ni hizo checkup

	<p>zimefanywa wapi?</p> <p>One of the documents found in the room showed that Lugemalila underwent a medical examination at the UDSM Dispensary on October 7, and the next day he received results showing that he was HIV-positive.</p> <p>Sasa mbona guest alikutwa na vyeti ambavyo tayari positive</p> <p>Duh naona natwanga maji kwa kinu. Nakwambia hivi DSM 1ST YR HAWAFANYIWI CHECK UP WANATOA 2 HELA NA KUWA CLEARED(waliosajiliwa mwaka huu na jana they know this and can testify it) So napata mashaka na Hiyo ripoti ya Polisi. Mara ngapi polisi wameandika ripoti isiyo kweli? It doesn't all add up</p> <p>Naweza kusema nijuavyo mimi ni kwamba hata wanafunzi huwa hawapendi kufanya check up, either kwa hofu au kwa kuokoa muda. Lakini kuna mtu mmoja mmoja anaweza kuwa anahitaji, so huenda hata dogo alihitaji.</p>
4	<p>Udsm postgraduate 2012/2013 selection vp jaman?</p> <p>By Fimbo ya Musa in forum Jukwaa la Elimu (Education Forum) Replies: 2</p> <p>Vp udsM wametoa selection za postgraduate 2012/2013? Natanguliza shukrani.</p> <p>Asante sana. Ila kozi niliyoomba sijaiona! PGDE</p>
5	<p>UDSM.baada ya boom kuingia leo mchana sasa ni zamu daruso(serikali wa wanafunzi) kung'olewa</p> <p>By Leonard Robert in forum Jukwaa la Elimu (Education Forum)</p>

kutokana na kile walichokiita ufishadi na uzembe wa serikali ya wanafunzi, uma wa udsu umeadhimia kuiondoa daruso rasmi kuanzia kesho, kwani tokea migomo na maandamano vianze daruso aijawai kushiriki..

Hadi sasa hali ni mbaya na tete maandamano mwanzo mwisho, vyakula vimeliwa bure cafeteria ile ya yombo. fimbo hadi vyumbani, waliokua madarasani saa 1 jioni (sasa hivi) wamepigika ile mbaya. kwa ufupi hapafai..

Du mwendo mchibuyu kama mbwai mbwai bil 64 wamezichakachua hv hv.. Komaeni ila hakikisheni mnachoma hata Jengo moja la utawala.

mkandala jasho la damu linamtoka na inasemekana ata mkuru wa magogoni anausika kutoa baadhi ya maamuzi kisa alizomewa mbele ya mseveni. hadi sasa saa mbili kasoro vumbi lilelile.. kimenuka!!!

👤 By **King Kong III** ▶

Du mwendo mchibuyu kama mbwai mbwai bil 64 wamezichakachua hv hv.. Komaeni ila hakikisheni mnachoma hata Jengo moja la utawala.

Yeah, sasa mda huu sa mbili na dk 41 usiku ndo wanaingia hapa hostel za mabibo wanahamasishana ile mbaya, ngoja nipate wasemacho

kesho shughuri iko palepale hadi kieleweke. kesho shughuri iko palepale hadi kieleweke.

Hiyo ni kweli kabisa maana maazimio yaliyopitishwa na wana udsu usiku huu hapa mabibo hostel ni kua kesho uongozi wote wa DARUSO kung'olewa madarakani na mpambano unaanza saa 2 asubuhi. Jamani mimi raia tu, nawatakieni usiku mwema.

	<p>Mbona maandishi yenu yanatia shaka kama kweli ni wanachuo? Duuh, watu wanashtuka kusikia mwanafunzi wa darasa la saba hajui kusoma, lakini hiyo naona ni similar tu na hayo maandishi!</p> <p>umeingiaje mabibo kaka? Kama sio mwanafunzi maana pale kuna uzio kama wa kufugia kuku. kama wa kufugia kuku.</p> <p>👤 By Leonard Robert ▶</p> <p>kutokana na kile walichokiita ufisadi na uzembe wa serikali ya wanafunzi, uma wa udsu umeadhimia kuiondoa daruso rasmi kuanzia kesho,kwani tokea migomo na maandamano vianze daruso aijawai kushiri..</p> <p>Hadi sasa hali ni mbaya na tete maandamano mwanzo mwisho,vyakula vimeliwa bure cafeteria ile ya yombo.fimbo hadi vyumbani,waliokua madarasani saa 1 jioni (sasa hivi) wamepigika ile mbaya.kwa ufupi hapafai..</p> <p>Mkuu kumbe nawe uko udsu - Replies: 41</p>
6	<p>Vurugu kubwa zatukuta udsu hali boom tayari lishaingizwa.</p> <p>By bampami in forum Jukwaa la Elimu (Education Forum)</p>
7	<p>Kwa wale waliochaguliwa udsu bila mkopo, jaman j3 ndio hiyo, opening day</p> <p>By stan b in forum Jukwaa la Elimu (Education Forum)</p> <p>2lio chaguliwa udsu bila mkopo, napenda kufaham wenzangu mna mikakat gan? au 2naenda kuripot kibabe, je hawatatunyanyapaa? hebu 2wekane sawa wana JF wenzangu. 2lio chaguliwa udsu bila mkopo, napenda kufaham</p>

wenzangu mna mikakat gan? au 2naenda kuripot kibabe, je
hawatatunyanyapaa? hebu 2wekane sawa wana JF wenzangu.

Dah! mm sijachaguliwa udom ila nina kesi kama ya kwako
kaka.....nimechaguliwa ardhi university ila sina mkopo,inaniuma sana....sasa
sijui pesa wamepeleka kwenye uchaguz igunga au vp.Mbaya zaidi sisi
tunakopa na tutarudisha na ndiyo maana walianzinsha system ya online
application ile iwe rahisi kutunza kumbukumbu za mwombaj ili aje arudishe
akimaliza kusoma.Sasa imekuwa tatizo hata kukopeshwa kwa malengo
mazuri ya kupata elimu iinashindkana.

hyo mipango ni mpaka vyuo vifunguliwe mkuu.

Ni sawa, lakini si wafungua wiki ijayo tu!. sio mbali.., wajipange.

speaking from experience....nawapa tahadhari wasije kusalitiana kwenye
hizo harakati zao....kizazi cha TCU kina mambo ndugu we utaona

👤 By Mzee ▶

uandishi wako una matatizo kweli.

2wekane=?.

2naenda=?.

2liochaguliwa=?.

Upuuzi mtupu.

Vijana..kumbukeni mmezaliwa kwenye nchi masikini.

Mkopo ni kama favour tu mnayopewa na serikali, siyo kitu cha lazima!

Kwahiyo ridhikeni kwa kile kidogo mnachokipata

	<p>👤 By DASA ▶</p> <p>Hivi nyie mnadhani hawa viongozi wetu bila kufanya nguvu za ziada wataelewa!, Mimi sio mwanafunzi..., Ila ushauri wangu ni kama mnaweza fanyeni mipango ya maandamano ya Amani kuwafikishia ujumbe..., maana tunajua kabisa wapo ambao hawakustahili kupata hiyo mikopo na wamepata.., na wale ambao wanastahili hawakupata. Ila ukweli ni kwamba Kila mwanafunzi anastahili kupata huo mkopo as long amefaulu vizuri na kupata chuo na ni mtanzania.</p> <p>Vijana ingieni barabarani tutawasupport.</p>
8	<p>UNIVERSITY OF DAR ES SALAAM</p> <p>Academic Staff Assembly (UDASA)</p> <p>JUMUIYA YA WANATAALUMA CHUO KIKUU CHA DAR ES SALAAM (UDASA) KWA KUSHIRIKIANA NA ITV/RADIO ONE inawaalika kuhudhuria Mjadala kuhusu:</p> <p>ATHARI ZA SHERIA YA TAKWIMU NA SHERIA YA MAKOSA YA MTANDAO ZA MWAKA 2015 KATIKA UHURU WA HABARI NA UHURU WA KITAALUMA!</p> <p>WATAKAOCHOKOZA MJADALA:</p> <ol style="list-style-type: none"> 1. Onesmo Kyauke, Chuo Kikuu cha Dar es Salaam 2. Onesmo Paul Olengurumwa, Chuo Kikuu cha Dar es Salaam na THRD Coalition 3. Aidan Eyakuze, Twaweza East Africa 4. Maxence Melo, Jamii Forums 5. Wawakilishi wa makundi mbalimbali yanayopigania uwepo wa uhuru wa

habari na taarifa.

TAREHE: JUMAMOSI, 18 APRILI 2015

UKUMBI: NKRUMAH, CHUO KIKUU CHA DSM

MUDA: SAA 8:00 (2pm) MCHANA HADI SAA 12:00 (6pm) JIONI

WOTE MNAKARIBISHWA

[Mzee Mwanakijiji](#), [Moderator](#), [PainKiller](#) and [8 others](#) like this.

Kama nataka kushiriki nahitajika kupitia hatua zip? Ama ni kwenda tu!!

Ok.tuwakilisheni vyema wana jf mlioko Dar.

Ianzishwe mada tumchangie hoja [Maxence Melo](#). Anapaswa kung'ara pale

UDSM kwa niaba yetu. Kila la heri Melo!

Mzee Tupatupa

Ningeenda Mimi Jamani, Ili Nisimame Na Mungu, Naamini Kingeeleweka,

Natoa Hoja

[Lotiro Mlembea](#) likes this.

Kama nataka kushiriki nahitajika kupitia hatua zip? Ama ni kwenda tu!!

!.. Kwani Wewe Unaishi Wapi Mkuu

.... Asante Kwa Taarifa Kamanda

hivi haiwezekani kukawa na video conference ili na akina [Mimi](#) Mwanakijiji washiriki? Kichwa sana huyu jamaa

Njooni UDOM Njooni UDOM

Nitajitahd nifike ni muhim sana..

I'll be there aisee I'll be there aisee

👤 By **Nyakageni** ▶

hivi haiwezekani kukawa na video conference ili na akina [Mimi](#) Mwanakijiji washiriki? Kichwa sana huyu jamaa

Huyo ni babu yako kijana. MM ana umri sawa na Dr Slaa. Have some respect when you talk about him!.

VP february atakuwepo ? watu wamchane live

sasa mtashirikije hiyo vidEo conference wakat mnatumia feki ID!?!?



MB8 makamba hawezi kuwepo yule!

Hivi hii midahalo huwa inatoa matunda yoyote?





ao wachokoza mada mbona wote naona kama wepesi labda Kyauke....

udasa ni kuwahi kiti tu pale Nkrumah. ukiwa juu unaweza pishana na mike

UDOM hakuna wa kuchangia wote mmevimbiwa wali na maharage ya lo washa!

9	<p>Kwa mwenye ufahamu naomba kujua gharama zoote kwa kozi hii hapo udsm..nipo kijijini sina access ya network ambapo ningeweza kudownload. Ahsanten</p> <p>Million 6-8.</p> <p>thanks, bt naomba mchanganuo zaidi hadi kufikia hiyo (6-8) Million</p> <p>Tuition fee ni 8.5m payable in four installments in each semesters. Other direct costs like Id and students union fees hazizidi 150,000.00 per annum</p> <p>Add your own living costs tunatofautiana sana emwo hili kulingana na standard you want to maintain. Tuition fee ni 8.5m payable in four installments in each semesters. Other direct costs like Id and students union fees hazizidi 150,000.00 per annum</p> <p>Add your own living costs tunatofautiana sana emwo hili kulingana na standard you want to maintain.</p> <p> By maleka </p> <p>Kwa mwenye ufahamu naomba kujua gharama zoote kwa kozi hii hapo udsm..nipo kijijini sina access ya network ambapo ningeweza kudownload. Ahsanten</p> <p>Soma kidogo hapa, itakupa mwanga kidogo!</p> <p>Directorate of Postgraduate Studies - The Full Time MBA Programme Soma kidogo hapa, itakupa mwanga kidogo!</p> <p>Directorate of Postgraduate Studies - The Full Time MBA Programme</p>
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10	<p>UDSM yatoa majina ya undergraduate course mbalimbali</p> <p>visit www.udsm.ac.tz</p> <p>Kuriport chuo tar 12 for orientation</p> <p>majina haya hapa https://udsm.ac.tz/sites/default/files/Announcements%202013%202014%20UDS M%20Direct%20Applicants.pdf</p> <p>shukrani shukrani</p> <p>Safi sana.</p> <p>haya poa tumekusoma!</p> <p>To view the names of applicants admitted to UDSM, copy the below to your browser address bar/ udsm.ac.tz/sites/default/files/announcement/Admissions%202013%202014%20UDS M%20Direct%20Applicants.pdf</p> <p>The following applicants have been selected to join various undergraduate degree programmes for the 2013/2014. academic year. The selected applicants should report at the University Main Campus on</p> <p>Saturday 12th October 2013 for the orientation week which will start on Monday 14th October 2013. Applicants selected for admission into the Dar es Salaam University College of Education (DUCE) and Mkwawa University College of Education (MUCE) should report directly at the colleges' campuses in Chang'ombe and Iringa respectively on the same dates. Joining instruction and admission letters should be collected at the University of Dar es Salaam Main Campus, DUCE and MUCE depending on where one is admitted.</p>
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	<p> Attached Files</p> <p> Admissions UDSM Direct Applicants.pdf (1.71 MB, 0 views)</p> <p>Oya mie Pdf haifungui ka vp nickekien</p> <p>Rajabu Ramadhani Yasoda</p> <p> By Basegeta ▶</p> <p>Nimeyaona</p> <p>By Basegeta ▶</p> <p>Nimeyaona</p> <p>Msaada: nickekieni Hili jina</p> <p>nimekuona MUCE..</p> <p>Rajabu Ramadhani Yasoda</p> <p>Vuta subira Mallon, it's just the beginning</p> <p>Wengine sim zetu hazifungui pdf, tupieni hapa wakuu.</p> <p>Thanks,it is true</p>
12	<p> Join: Master of Science in Geographical Information Systems (MSc. GIS) at UDSM</p> <p>Dear, become a competent GIS Analyst, Developer, Programmer, Manager or User. Join Master of Science in Geographical Information Systems (MSc. GIS), which is new in Tanzania. It is 18 months- long, EVENING programme at the University of Dar es Salaam - Department of Geography.</p>

1. Qualification: GPA of at least 2.7 or its equivalent from ANY FIELD OF STUDY. Non-degree applicants with an Advanced Diploma (second class or higher) and Postgraduate Diploma are eligible.

2. Fees for the whole programme is Tsh. 6,875,000.00/= (exclusive of Dissertation project costs)

3. Application Deadline: 20th October, 2015.

4. Call 0767 004 280, Request for Application Forms from
Email: johnbaitani@gmail.com

5. For more details please click this link: <https://www.udsm.ac.tz/node/520>

6. Please circulate to all!!

As a gis analyst unaweza fanya kazi katika field zipi kwa tanzania?????




Kozi nzuri sana, Hongereni kwa kuanzisha.

Nitaomba right away. Wasiwasi wangu kwa kozi hizi za computer-based kwa hapa nchini hatuna walimu competent na/au vifaa/maabara.

Nina ushahidi wa watu waliosoma nje na ndani. Tofauti yao kiutendaji ni kubwa sana. Nadhani kozi hizi zinahitaji mazingira fulani ambayo hatuna.

Hata hivyo nitaomba tu kwani siwezi tena kuifuata ITC au Twenty sababu za kifamilia.

Appendix S : MUHAS Jamii forum content review extracts

Post no	DISCUSSION THREADS
1	<p> Master's degree at MUHAS</p> <p>I am looking for someone who is studying or has completed a masters degree in microbiology and immunology at MUHAS. I just wanna know more about the courses and work load. Any help rendered will be greatly appreciated.</p> <p>Thanks in advance.</p> <p>I advice to check on almanac in order to know the courses offered ,otherwise they are good and organized</p> <p>thank you for taking your time to reply. Much appreciated</p> <p>Nadhani muda wa application umepita.</p>
3	<p> Naomba msaada fee structure ya Postgraduate ya MUHAS</p> <p>Wapendawa nimepata sponsor wa kunisomesha na nipo mbali na hicho chuo kwahiyo naomba nitumiwe FEE STRUCTURE YA POSTGRADUATE YA MUHAS natumaini mtanisaidia</p> <p>Tafuta prospectus yao....iko pia online</p> <p>ingia kwa website ya muhas..download postgraduate application form au prospectus...utapata unachohitaji</p> <p> By KIFPA ▶</p> <p>Wapendawa nimepata sponsor wa kunisomesha na nipo mbali na hicho chuo</p>

	<p>kwahiyo naomba nitumiwe FEE STRUCTURE YA POSTGRADUATE</p> <p>YAMUHAS natumaini mtanisaidia</p> <p>Mkuu KIFPA, fungua website then nenda kwenye admission section then utaona diploma, undergraduate na postgraduate then chagua unayotaka na utaona fees ikoje....</p> <p>http://www.muchs.ac.tz/</p>
4	<p>Msaidieni mdogo wangu huyu kwa mawazo</p> <p>Kuna mdogo wangu alimaliza kidato cha sita mwaka Jana, na alisoma mchepuo wa PCB na matokeo yake yalikuwa ni (Phys C) , (Chm B), (Biol B), (Bam B) .</p> <p>Pamoja na matokeo hayo aliomba koz za udaktari na alikosa kisha profile lake kufutika. Na kisha alipangiwa Udom education, alipofika chuon aliomba kubadili kozi hiyo kwenda Medicine ila walimkatalia kwamba nafasi zimejaa, akaomba kwenda nursing pia akaambiwa nafasi za uhamisho wa kozi zimeshawahiwa.</p> <p>Hivyo kijana huyo alichukua maamuzi magumu ya kuacha chuo.!! Bado anamawazo ya kuomba tena Medicine mwaka huu .</p> <p>Je kwa matokeo hayo ya CBB anaweza kupata.?</p> <p>Au ni kozi gani ya udaktari wana Jf mnamshauri aombe. Msaidieni kwa mawazo wakuu kwani mimi nmeshindwa cha kumshauri.?</p>

Tatzio mmekariri sana kwamba lazima medicine ukasome Muhimbili

mwambie akaombe KCMC tawi la Tumaini atapata na atasoma.

Kuna madaktari wazuri tu wamesoma hapo na leo hii ni mabingwa wa mfano

Dr. Dani Massawe aliyekuWA Peramiho Hosp na sasa yuko Rufaa

Mbeya.....

Dr Rune yeye bado yuko KCMC,

Siku hizi kiwango cha elimu kimeshuka sana kumbe, sikuwa najua kuwa

imefikia hatua ya mtu kukosa medicine na alama zote hizo. Enzi zetu sie kwa alama hizo unajichagulia kozi!

BAM-B how comes? Nijuavyo ni S tu au dunia inaenda kwa kasi zaidi hadi naachwa nyuma nini?

Anyway,

Kama dogo anang'ang'ania medicine sijui namna ya kumshauri sana, maana kama awamu hii kakataliwa vp kuhusu awamu ijayo si inaweza kuwa mbaya zaidi kwa sababu ya competition? Sijui!


Nionavyo:

1.Aendelea kupambana apate akitakacho,

2.Aangalie plan B hii dunia ni ya Mungu asidemand mambo kama vile dunia hii ni yake

Mpe pole sana!

Duuuu very nice to have these connections with potential folks.....

 By the way, umeadimika sana humu jamvini! Kulikoni!

asikariri maisha, last time MD tulichukua mwisho point 7, kama kuna mtu alichaguliwa na point less than 7, it was thru transfer, MWAMBIE KAMA ANAUPENDA UDAKTRARI ANAWEZA ANZA NA DIPLOMA

Yeye anapoint 8 na amekosa na aliomba KCMC

BAM-B, Hiyo div 3 ya zamani aanze na diploma. hapo kwenye bam sijaelewa

Diploma hataki anadai kwamba wenzake wanapoint 6 na wanasoma Mdcn Imtu na Hubert kairuki.

na wengne wana 8 wapo Kcmc, bugando na muhas.

kwan udaktari una kozi gani ingine??

hapa usishindwe kutofautisha kati ya kozi za utabibu na kozi zingine zinazohusika katika utabibu

kwakua nia yake ni kuwa tatbibu let him/her go for it.

accessory causes kama vile za uuguzi yaani nursing, radiology, pharmacy anaweza pia kusoma lakin pia iyo siyo ambition yake.

kijana anataka kuvaa koti white na stescope af wewe unamwambia asomee radiology akafe na mionzi?? (kidding)

seriously he can also go for pharmacy courses, radiology courses and nursing courses nje ya muhimbili ama hata hapo muhimbili ikiwa tu na yeye ni mshapukwan udaktari una kozi gani ingine??

hapa usishindwe kutofautisha kati ya kozi za utabibu na kozi zingine
zinazohusika katika utabibu

kwakua nia yake ni kuwa tatbibu let him/her go for it.

seriously he can also go for pharmacy courses, radiology courses and nursing
courses nje ya muhimbili ama hata hapo muhimbili ikiwa tu na yeye ni
mshapu



🗣️ By **Chachasteven** ▶

Ila kwa point hizo in kozi gani nyingine za udaktari anaweza omba nzuri.
embu mshaurini jamani.

Hapa nadhani ulimaanisha kozi zingine za afya.Fanya hivi wewe kaka yake

1:Chukua kitabu cha TCU ujiridhishe kuwa amequalify kusoma kozi za afya
kama MD,Pharmacy,Environmental Health,Nursing,Dental
Surgery,Laboratory Sciences etc

2:Ukishajiridhisha,mshauri achague vyuo visivyo na competition
kubwa.Mfano anaweza kuchagua MD ya ile SAUT ya Songea inaitwaje sijui
siku hizi ila inaanza na Archbishop something

3:Afanye application mapema kwa sababu time ya kuapply has something to
do

4:Vyuo vingine visivyo na competition kubwa ni zile Kampala,Imtu na Hurbert Kairuki.Sema hizi anatakiwa awe vizuri financially.Pia anaweza kuomba Pharmacy ya St. Johns,na kuna kozi nyingi tu za maabara pale **MUHAS** huwa hazijai sema hazina loan

Info zingine nyingi tu zinapatikana kwenye kitabu cha TCU

Good luck kwa mdogo

2.Aangalie plan B hii dunia ni ya Mungu asidemand mambo kama vile dunia hii ni yake

Mpe pole sana!

Sijakuelewa kaka anaomba ushauri jamani

Au aombe kozi gani nzuri kwa matokeo hayo .

msaidie mkuu.!!!



Ze Heby;

Asante mkuu lakini vipi kuhusu nursing kwenye competition inakuwaje.








Re: Msaidieni mdogo wangu huyu kwa mawazo.

Uhasibu kivipi mkuu mbona unampoteza na kozi isiyo na soko.



 By **TheDealer** 

	<p>Kwan dogo she ama me? Nursing haina competition sana!</p> <p>dogo ni mvulana</p> <p></p> <p> By Chachasteven ▶</p> <p>Uhasibu kivipi mkuu mbona unampoteza na kozi isiyo na soko.</p> <p>Matusi hayo mkuu....coz isio na soko?</p> <p>Anyway, isiwe case mimi nimekupa uwanja mpana tu.....kuwaza kuajiriwa badala ya kuajiri ndio mwanzo wa kujilaani mwenyewe!</p> <p> By Chachasteven ▶</p> <p>Uhasibu kivipi mkuu mbona unampoteza na kozi isiyo na soko.</p> <p>Matusi hayo mkuu....coz isio na soko?</p> <p>Anyway, isiwe case mimi nimekupa uwanja mpana tu.....kuwaza kuajiriwa badala ya kuajiri ndio mwanzo wa kujilaani mwenyewe!</p> <p></p> <p> By TheDealer ▶</p> <p>Akakamue....dentistry!</p> <p>dentistry inapatikana chuo gani? na inahusiana na nn?</p>
5	Kwa wataalam wa AFYA!

Heshima mbele wadau!

Naomba msaada ndugu zangu, Kuna mdogo wangu ana stashahada ya uuguzi(Diploma in nursing) anataka kusomea degree ya medicine(MD),Na matokeo yake F4 ni mazuri pamoja na principal pass mbili za PCB F6 ya 2009.Je anaweza kupata chuo hapa nchini?Wenye ufaham plz.

Re: Kwa wataalam wa AFYA!

guide book ya TCU inasema requirement is form six au diploma in clinical medicine sasa hiyo ya nursing kwenda MD nahc haiwezekani.




Mbona vyuo vingine vinasema diploma in clinical studies?Maana ya clinical studies ni nini mkuu?au ndio hiyo hiyo clinical medicine? Nilielewa clinical studies ina iclude diploma yeyote inayo masuala ya afya.Angalia




UDOM,KAIRUKI na KIU?Nashindwa kuelewa maana elimu yangu ni ya biashara yu mkuu.




Usiwe Unakurupuka kujibu kama huna uhakika.....diploma ya nursing anaruhusiwa Kusoma MD





labda akasome clinical medicine first ndo apande mpaka degree ila tofauti na hapo haiwzekan labda chuo kiwe cha Baba ako.

Mkuu naomba utupe uhahikika make naona kila mtu ana yake! Ukisoma vizur ile guiding ya TCU ni kama inarusiwa vile, mfano tumejaribu kucheki KAIRUKI wanasema angalao mtu awe na diploma ya clinical med,nursing,dentistry,orthoped ic, physiotherapy etc.

6	<p> By PANCREASE ▶</p> <p>Mkuu naomba utupe uhahikika make naona kila mtu ana yake! Ukisoma vizur ile guiding ya TCU ni kama inarusiwa vile, mfano tumejaribu kucheki KAIRUKI wanasema angalao mtu awe na diploma ya clinical med,nursing,dentistry,orthoped ic, physiotherapy etc.</p> <p>Yes mkuu hiyo inawezekana kabisa....labda kunaweza kutokea Competition according to GPA...</p> <p>Ila anajiunga saaafi,anapiga MD yake Saaaafi.</p>
7	<p> By Geniustin ▶</p> <p>Yes mkuu hiyo inawezekana kabisa....labda kunaweza kutokea Competition according to GPA...</p> <p>Ila anajiunga saaafi,anapiga MD yake Saaaafi.</p> <p>Watu walikuwa na Diploma ya Radiology na wakaenda kusomea Medicine,sembuse Nursing...</p> <p>Na bado wapo wengi weny Diplom ya Nursing wanaosomea MD.</p> <p>Vyuo vipo KCMC,BUGANDO,MUHAS,UDOM na vingine vingi.</p> <p>Shukrani mdau! Umetufumbua macho hapa make huyu dogo ailienda kuchukua dip ya nursing baada ya kubaniwa clinical officer serikalini japo haikua nia yake kusomea nursing na alishaanza kufikiria kwenda kusomea ualimu wa nursing.Bas ngoja tuchakarike na nacte mkuu.</p> <p> By SEROTHERAPY ▶</p> <p>Ngumusanaaa aseee labdaa kwavyuoo vyenye pesambeleee kahirukii etc</p>

	<p>Hata H Kairuki wameandika requirements ni form6 PCB au diploma in clinical medicine xo diploma in nursing kusoma medicine ni ndoto labda akasome degree ya nursing.</p> <p> Re: Kwa wataalam wa AFYA!</p> <p>Vyuo karibu vyote inawezekana.tunasema hivi coz tuna uhakika na tuna ushaidi....</p>
8	<p> Mkanganyiko wa hizi term za kiafya kwa udaktari</p> <p>Natumaini muko wazima wanajamvi mimi ni mmojawapo ya wanaosubiri kufanya usajili mwaka huu kupitia NACTE iliniombe diploma ya clinical medicine naomba kufahamu haya:</p> <ol style="list-style-type: none"> 1.kuhusu CAS-Yani central admition system ya NACTE ikoje 2.Ni vyuo gani vya serikali vizuri kwa taaruma hiyo 3.naomba kujua hizi terms"CO. AMO.BCS.MD.RCB" zikoje katika utendaji 4Mfumo mzima wa maisha ya usomaji katika vyuo stahiki 5.Mwisho ni kufahamu matangazo ya application yanatokaga mda gan? na nikupitia wizara au NACTE. <p> Mkanganyiko wa hizi term za kiafya kwa udaktari</p> <p>Natumaini muko wazima wanajamvi mimi ni mmojawapo ya wanaosubiri</p>

	<p>kufanya usajili mwaka huu kupitia NACTE iliniombe diploma ya clinical medicine naomba kufahamu haya:</p> <ol style="list-style-type: none"> 1.kuhusu CAS-Yani central admission system ya NACTE ikoje 2.Ni vyuo gani vya serikali vizuri kwa taaruma hiyo 3.naomba kujua hizi terms"CO. AMO.BCS.MD.RCB" zikoje katika utendaji 4Mfumo mzima wa maisha ya usomaji katika vyuo stahiki 5.Mwisho ni kufahamu matangazo ya application yanatokaga mda gan? na nikupitia wizara au NACTE. <p> Re: Mkanganyiko wa hizi term za kiafya kwa udaktari</p> <p>diploma tumia cheti cha olevel, zaidi ya hapo subiri wakuu waje</p>
9	<p> By KATUNZI THE YOUNG </p> <p>mwaka jana niliomba MD-MUHAS,UDOM,SFUCHAS wakanitema eti sababu ya competition nikapangiwa St.joseph pesa ndefu kwa diploma sijawahi kuaply ndo hayo mkuu</p> <p>kwa nn usiombe tena mwaka huu boy ?</p> <p>matokeo yako form six ni mazuri usikubali kuapply diploma in clinical medicine ni</p> <p>mzunguko sana kwa sababu mpaka uje usomematokeo yako form six ni</p>

	<p>mazuri usikubali</p> <p>Apply tena medicine nauanzie ifakara, udom na bugando</p> <p>mkuu kwa ushauri zaidi matokeo ya form6 mwaka huu yakitoka fuatilia uone kama ufaulu umeongezeka au umepungua kwa kitaifa na pia kwa shule uliyotoka.....</p> <p>kama hayana utofauti sana au ufaulu umepungua,,, basi apply degree tena but sio MUHAS, KCMC wala BUGANDO,, na kama utaweza wakati huohuo apply diploma kwa vyuo vya private,,, hata ikitikea umekubaliwa kote ni wewe tu unaamua uende wapi</p> <p>Nashukuru mkubwa nami ntajaribu tena mwaka huu</p>
10	<p> By Danny Job </p> <p>mkuu kwa ushauri zaidi matokeo ya form6 mwaka huu yakitoka fuatilia uone kama ufaulu umeongezeka au umepungua kwa kitaifa na pia kwa shule uliyotoka.....</p> <p>kama hayana utofauti sana au ufaulu umepungua,,, basi apply degree tena but sio MUHAS, KCMC wala BUGANDO,, na kama utaweza wakati huohuo apply diploma kwa vyuo vya private,,, hata ikitikea umekubaliwa kote ni wewe tu unaamua uende wapi</p> <p>Nashukuru sana kwa ushauri wako ndugu make unanitia moyo ntajaribu kuomba sehemu zote nahisi mungu atajaria</p> <p> By Zizi la ng'ombe </p> <p>Apply tena medicine nauanzie ifakara, udom na bugando</p>

	<p>nashukuru kwa ushauri wako</p> <p>vilevile wanajamvi ningependa kujua au kama kuna mtu anajua ujanja au utaaramu wa kukabiliana na competition TCU ili mwaka huu niaply tenah MD wasiniteme kama mwaka jana? nashukuru kwa michango yenu</p> <p>kwa matokeo hayo ya form six nakushauri apply medicine hizo diploma mzunguko mrefu sana.ukisindwa omba hata imtu</p> <p>👤 By KATUNZI THE YOUNG ▶</p> <p>Napia ningependa ushauri nitumie cheti kipi kuaply sabu olevel nina(Physics-C ,Chemistry-B.Biology-D kwa matokeo ya2011 sio BRN) then form six(Biology-B.Chemistry-B,Physics-D kwa matokeo ya kidato cha sita mwaka jana) naomba mnisaidie nitumie cheti kipi?</p> <p>Kuwa muwazi wewe kua umefeli form six, kwa matokeo hayo ya form six mwaka jana watu hawajaachwa hata kama kuna competition vip!!!</p> <p>Unaonesha unataka kuomba clinical medicine umeharibu kuweka matokeo yako ya uongo mwishowe unaishia kusifiwa tu na MAANA YA TERMINOLOGY ULIZOKUA UNATAKA KUELEWESHA hujapata!</p> <p>Utaua wagonjwa wewe, huku hatuhtaj anaetaka sifa za kijinga ila ni umahiri</p>
11	<p>💬 Diploma in Diagnostic Radiography</p> <p>hivi mtu aliefanya diploma ya radiography anaweza kusoma course gani ya afya kwa level ya degree?..msaada kwa mwenye uelewa</p> <p>Inategemea sana na matokeo ya form six</p> <p>Anaweza kuendelea na degree ya diagnostic technology, radiation therapy</p>

technology au nuclear medicine technology. Sidhani kama hizi zinatolewa hapo nchi. Hii ni kwa curriculum za hapa [university of bahrain](#). ukiitaji search huwa wanatoa scholarship 10 kwa waislamu kutoka AFRICA KILA MWAKA., UKISHINDWA NITAKUTUMIA SEARCH NITAKUFORWADIA APPLICATIONS.

ok inshallah nitaisearch nikishindwa nitakuambia mkuu..hio radiation therapy ipo hata hapa [muhimbili](#) ila tatizo hataki kuendelea na mionzi tena anataka kitu kingine lakin cha afya

Pitiaaa tcu guidebook vizurii

Kaka hyo course ina utata japo sio Sana... Ingawa ukimuuliza mtu kuhusu kwao lazma apasifie. Hyo course kwa degree hapa nchini hakuna labda iwepo muda huu. ILA kwa 2013 nilichaguliwa bugando kupiga hayo mambo na ikabidi nikubali kuhama.

sijakuelewa mkuu, kupiga mambo gan hayo huko bugando?

Anatapiga MD


Atapiga bachelor ya Diagnostic radiography


Atapiga bachelor ya radiotherapy

Atapiga nuclear medicine

Hizo hapo

	<p>Hapana si kweli</p> <p>lakini hio bachelor ya diagnostic radiography na hio nuclear medicine c</p> <p>hamna hapa tz</p>
12	<p>🗨️ By tzhumoally ▶</p> <p>lakini hio bachelor ya diagnostic radiography na hio nuclear medicine c</p> <p>hamna hapa tz</p> <p>Hapa tanzania hmana labda kenya hio diagnostic radiography ,south africa na uingereza huko na nchi zingine</p>
13	<p>💬 Diagnostic Radiography!!!!???????</p> <p>Naomba kuuliza, diagnostic radiography kwa tanzania inalipa? Na je nafasi za ajira zipoje?</p> <p>Naomba majibu yenye uhakika!</p> <p>Zipo cz wataalam ni wachache pia</p> <p>🗨️ By chakii ▶</p> <p>umeamua kujitoa muhanga mkuu,.</p> <p>Muhanga kivipi?</p>
14	<p>💬 Natafuta mawasiliano na mtu yoyote aliyesoma MUHAS</p> <p>Naombeni msaada tafadhari kwa yeyote anayesoma, aliyesoma, au anamfahamu mtu yeyote anayesoma muhimbili university anicherk katika</p>

	<p>namba hii kuna baadhi ya mambo nataka kuzungumza nae +255653496092</p> <p>msaada gani mkuu, ongea wa muhas tupo hapa!</p> <p>Mkuu.. Wewe una shida kweli? Mbona kama una mambo ya ki-mwinyi sana?</p> <p>Yaan unashida ww alafu nikutafute mm</p> <p>weka shida utatuliwe na mawazo ya wana muhas...</p>
15	<p> Muhimbili University Badiliken</p> <p>Muhimbili University of Health and Allied Science ni miongoni mwa vyuo vinavyo heshimika hapa Nchini na nje ya Nchi, kiasi kwamba kuna wanafunzi wanatoka Nchi za nje na kuja kusoma hapo, mfano, Sudan Kusini, Uganda, Zambia, Malawi n.k. Tatizo lililopelekea kuweka hii thread hapa ni mfumo wao wa kutangaza matokeo ya University Exam, UE, bado wanatumia njia ya zamani ya kubandika kwenye Notice board, ikumbukwe mida hii ni likizo ya muda mrefu, wanafunzi wamesafiri kurudi makwao mikoani na nje ya Nchi, sasa wanapobandika matokeo kwenye Notice board, walio nje ya Dar es Salaam watayapataje? this is too extra ordinary, kwa nini wasiupload kwenye website yao, mwanafunzi anaaccess kwa Reg no yake na user name popote alipo, not all people stays in Dar, this is International University.</p> <p>Huo ndio uhalisia wa nchi yetu na taasisi zake. Business as usual. Walimu hawana muda, wako kwenye miradi yao. professors attending conferences!</p> <p>Si wawe wanatumia system ya mtandao kama inayotumiwa na UdsM Udom</p>

	<p>system yao ya kizamani hiyo kuchoshana watu toka mikoani hadi chuo sasa</p> <p>iv watu wanatumia mitandao</p> <p>wawasiliane na mimi niwatengenezee student information system.</p> <p>Umenena vyema mkuu,kweli kabisa waachane na mfumo wa kubandika makaratasi</p> <p>Kweli mkuu hapo mhimbili hilo swala tulisha wahi kulipigia kelele sana mbona vio vingine vidogo vya diploma wao wanaweza fanya hicho kitu wao wanashindwa nin ni aibu sana aisee</p> <p>SARIS ipo ila haitumiki accordingly,matokeo utayakuta SARIS about months from yanapokuwa released kwenye mbao..Pia hiyo database ina kasoro nyingi tu kiasi kwamba kuitumia inachosha</p> <p>mmmh kali ya mwaka</p> <p>Hv tz kuna watu wanasoma ?</p> <p>MUHAS kuna mengi tu ya Kushangaa kama wanadahili postgraduate anakosekana mwanafunzi wa PhD hata moja!!??</p> <p>Aibu kwakweli.</p> <p>uongozi wa juu na wa chini hauna ushirikiano wa kutosha kufanya revolution ya chuo toka analogia to digitali. sifa ya nje ya chuo ukiingia ndani kawaida sana kufanya kazi kwa mazoea ndo kumetawala</p>
15	<p> Msaada: kusomea Degree ya DOCTOR OF MEDICINE(MD)</p> <p>Habari zenu wakuu. naomba msaada kdogo juu ya hili,je nikiwa na</p>

qualifications kama hizi (1 na 2 apo chini) kwa TANZANIA naweza enda
somea degree-doctor of medicine(MD)

1>Ufaulu mzuri wa chemistry,biology&geography(CB G)A-LEVEL
STUDIES

2>Diploma in clinical medicine.

msaada 2; ukitoa factor ya ufaulu wa masomo ya PCB(A-LEVEL) ni
qualifications zipi zingine ambazo mtu anatakiwa awe nazo ili asomee
Degree-doctor of medicine(MD) kwa TANZANIA?

Entry Requirements for Undergraduate Programmes


MD and DDS Degree



Direct Entrants


Principal pass at C grade or Higher in Chemistry or Biology/Zoology or
Physics/Mathematics provided the other two subjects are not below D at “A”
level. Preference will be given to applicants with C grade or above in
Chemistry or Biology in that order.

Candidates with E in Physics/Mathematics at “A” level provided they have
“C” or higher in Chemistry and/or Biology.

Candidates with D in Physics/Mathematics, Chemistry and Biology at “A”
level provided they have at least credit pass in Chemistry and or Biology at
“A” Level.

	<p>Equivalent Qualifications</p> <p>Appropriate Diploma/Certificate/degree with Principal passes at any grade in Physics, Chemistry and Biology at “A” level of education.</p> <p>Holders of BSc/BA degree majoring in Physics, Chemistry and Biology/Zoology.</p> <p>Source: MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES - Entry Requirements</p> <p>JF members I would like to know if there is any probability for a CBG student to go for further studies in the field of Doctor for medicine. Your comment will be appreciated.</p> <p>Haiwezekani..ts only 4 PCB's!</p> <p>You mean medical doctor?</p> <p>Recquirements for admission into Doctor of Medicine ni principal pass in bios. Pia subsidiary in A level phy or credit in O level Phy. Kama ulipiga phy vizuri o level then una sifa.</p> <p>Huwezi kupata admission kwa MD course kama haujasoma physics o level na a level. Na kwa ujumla course zote za udaktari kwa degree level lazima ue umesoma PCB hapa nchini. Waweza soma kozi zingn kama environmental health sciences. Karibu sana muhas.</p>
16	<p> Help:Muhimbili university of Health allied sciences(muhas)</p> <p>Jamani naomba mnisaidie,kama kuna mtu anaejua second selection za</p>

	<p>diploma muhimbili huwa zinatoka mwezi wa ngapi?na waliochaguliwa hujiunga mwezi wa ngapi?msaada please.!Mungu awabariki.</p> <p>Huwa yanatoka nov nadhani na kujiunga ni as soon as unaona jina lako..so usijali sanaa...kwa kifupi huwa haivuki dec utakua chuo</p>
17	<p> Wale wa muhas 1st year</p> <p>Naomba kuuliza hizo joining instructions ni lini zitapatikana maana kila ukiwapigia simu wanasema kesho ? Na pia katika yale majina ya walochguliwa wamesema inatakiwa ulipe ada kabla ya 5. October sasa HESLB si washatoa majina ya walopata so kama umepata si unaacha tu kulipa ama vp ? Naombeni msaada wenu</p> <p>Mimi sipo MUHAS kwa sasa, lakini nina uzoefu wa shule hiyo! Issue ya ada, kama umepata mkopo usihofu Jamaa wa HESLB watapeleka ada yako. Lakini kuna michango midogo midogo ambayo unatakiwa uilipe wewe sio HESLB, kitu kama Reg fee, Exam Fee, Insuarance, Student Union etc. Tafuta info vizuri kwa wenzako au Administration Ujue hiyo michango(Minus Tuition Fees) ni kiasi gani, ndo unatakiwa uilipe hiyo before 5th Oct.</p> <p>Cheerz!</p> <p>Resp 4</p>
18	<p> BAADA YA KCMC, CUHAS, je MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES LINI WAJAMENI?</p> <p>Wale tulioomba hizo degree za muhimbili kwa diploma qualification</p>

	<p>hatujajua hatima yetu..website yao bado haina kitu, mwenye kujua atusaidie jamani, tunakufa kwa presha jamani!!!</p> <p>Hivi hiyo haraka uliyokuwa nayo inatokana na nini hasa....we subiri bna..</p> <p>Resp 1</p>
19	<p> Kwa hali hii naweza kusoma MD Muhimbili..?</p> <p>Nimesoma CBA na nimepata div 2 ya 10..</p> <p>Je naweza kupata chanc muhimbil kwa faculty ya MD.?</p> <p>HELP WILL BE APPRECIATED</p> <p>Kozi zote MUHAS isipokuwa Environemntal Science ni Zote ni CPA</p> <p>Resp 13</p>

Appendix T : UDSM Geology group WhatsApp interface

