E-LEARNING WORKING PAPER SERIES

Online Learning and Professional Development for Faculty and Staff at Makerere University in Uganda

Harriet Mutambo Nabushawo

Jessica Norah Aguti

Makerere University
&
Busitema University

February 2023

Online Learning and Professional Development for Faculty and Staff at Makerere University in Uganda

Harriet Mutambo Nabushawo (PhD), lecturer

Makerere University

Jessica Norah Aguti (PhD), Associate Professor

Busitema University

Acknowledgements

Abstract

The study set out to establish why the uptake of e-learning among faculty at Makerere University is low in spite of numerous efforts by the university to scaffold staff by putting in place appropriate policies, infrastructure and supporting staff trainings through higher degrees, short courses and workshops. The main research question that guided the study was to establish the contribution of training in eLearning in transforming academic staff practices in course design, delivery and assessment. In order to understand the current academic staff's pedagogical practices and how these have been influenced by the training in eLearning that has been conducted over the years, the study utilized mixed research approaches to gather data from faculty, university administrators and students.

The results indicate that majority of faculty at Makerere University have received training in e-learning to enable them to transform their pedagogical practices however, the delay in the uptake of e-learning is tagged to heavy workload, inadequate motivation for e-content development process and inadequate opportunities continuous professional development. Looking at the few available courses on the institutional Learning Management System (LMS) revealed that courses are not well designed to support online learning because they are not interactive in nature. While using interactivity model to check on the quality of the courses online, the study established that all the courses on the LMS are at level one of interactivity, which does not give students a high degree of interaction (Gutierrez 2012). Most of the course shells have just course outlines and reading materials in form of PowerPoint presentations, PDF files, journal articles, videos and Audios.

The study therefore concluded that as much as online pedagogy is making inroads at Makerere University, it is a relatively new mode of study and therefore there is need for continuous sensitisation and training of both staff and students so as to acquire the necessary skills, knowledge and attitudes for effective adoption of eLearning.

Key Words: e-Learning, Online Pedagogy, Professional Development, Technology, Learning Management System and Training

1. E-Learning at Makerere University

Makerere University has promoted eLearning for the past 7 years since the approval of the eLearning policy in 2015. To ensure a conducive environment for eLearning, the university has put in place appropriate policies, infrastructure and invested a lot in training staff through higher degrees, short courses and workshops. It is anticipated that this capacity building should lead to transformation in the teacher's mind-set and practice. An academic staff that has undergone training in course design, development and delivery in eLearning should use transformative pedagogy. This is however not the case at Makerere University. According to some of the students accessing learning materials on the Institutional Learning Management System, some of the learning materials being used for online courses are not very interactive and tutor online presence is still minimal. Lecturers seem to use the emerging technologies like zoom to perpetuate their teacher-centred, traditional approaches to teaching. It is therefore not clear what changes have not been made in the lecturers' practice with specific reference to course design, development and delivery.

1.1. Ugandan Context

Uganda has one of the youngest populations in the world with nearly 69% of the population (that is nearly 27 million) below the age of 24 years (CIA World Fact book). The implication is that the bulk of the nearly 40 million total population is youth desiring to receive education. However, traditional strategies of providing education will not be adequate to meet this demand and the growing demand from adults returning to school. Uganda must therefore embrace and employ much innovative and flexible ways of providing this much-needed education (Republic of Uganda 2015). Open, Distance and e Learning (ODeL) are a growing alternative with more and more Universities and companies mounting ODeL programmes. However, there is inadequate expertise in the country for this and Makerere University is spearheading growing this capacity having already led the way in popularizing and growing ODeL in the country.

It is not clear why, despite all the existing policies and training undertaken this transformation is not taking place. This study therefore sought out to answer the following questions in order to unravel the dilemma.

1. How does training in e-Learning impact the transformation of academic staff's practices in course design, delivery, and assessment?
2. What are the critical factors necessary for full utilization of transformative pedagogy?
3. What are the critical factors necessary for full utilization of transformative pedagogy?

4. How can we design an effective capacity-building framework for transformative pedagogy?

2. Literature Review and Theoretical Framework

A number of Universities are grappling with challenge of continued use of outdated methods of teaching and failure by academics to adopt much more transformative pedagogies. E learning is believed to contribute to transforming pedagogies and changing the kind of learning outcomes being achieved but this is not necessarily happening. Studies on utilization of ODL approaches in Africa indicate low adoption levels despite the most common belief that ODL approaches are a panacea to solving the challenge of bulging student numbers in conventional education institutions (Aguti, 2020). According to Muyinda et al (2019) low levels of utilization for ODL approaches stem from institutional and individual capacity constraints. Institutional constraints have lots to do with poor infrastructure and weakly enforced policies. Apparently, most universities in Africa have formulated policies and strategies for promoting ODL approaches. In Makerere University for example, the Strategic Plan 2008/09 – 2018/19, demanded for the introduction of open, distance and e-learning (ODeL) delivered programmes in at least six units of the University (Makerere University, 2008). To actualize the demand for diffusion of ODeL at Makerere University, the University's ICT policy called for the development of a separate dedicated policy on ODeL. This policy was developed and approved in October 2015 (Makerere University, 2015). The policy provides a fertile ground for the diffusion of blended learning at Makerere University.

Additionally, African countries have benefitted substantially from ODL grants from development partners like the World bank that funded the first ODL project the African Virtual University (AVU) project initiated in 1997 (Okuni, 2000), AfDB HEST V Programme is implementing a component to provide ICT infrastructure at public universities in Uganda. In 2013, Makerere University received a USD 3 million NORAD/NORHED grant for the Distance Education Leapfrogging Project (DELP). DELP was aimed at leapfrogging 1st generation distance education into 4th and 5th generation distance education. In 2017 Makerere University, Open University of Tanzania, State University of Zanzibar, Strathmore University, Kenyatta University and Rwanda University started participating in DfID/SPHEIR supported project titled: Partnership for Enhanced and Blended Learning (PEBL) aimed at sharing scarce faculty in the six (6) partner universities using blended teaching.

Despite all these initiatives in addition to institutional staff development efforts in form of short courses and graduate training in e-learning, the capacity of lecturers has remained low due to limited user knowledge in technology and negative attitudes. According to Mallinson & Krull (2013) most lecturers do not comfortably engage with educational technology when exposed to it for the first time due to various environmental and culture differences between the online and traditional classroom. Similarly, Muyinda et al, (2019), contend that Faculties in most of the universities in Africa are trained and groomed using traditional teacher-centered face-to-face approaches. Requiring them to transit from these approaches to ODL approaches, which are in most cases student centered is challenging. So in many cases these new approaches will be resisted. A study by Goktalay (2006) on faculty adoption of online technology in higher education, established that staff development is a key factor for successful implementation of any technological innovation in education. At Makerere University, whereas the majority of academic staff are ICT literate (over 90.0%), there is insufficient use of ICTs in pedagogical processes (Muyinda, 2019). The institutional Learning management system, is not regularly used by staff for pedagogic activities despite being in place for over 10 years. The main reasons advanced for not using it used it was inadequate user knowledge and skills in accessing and navigating the platform (Kituyi & Kyeyume, 2006). The question to ask therefore is, why is the uptake of e-learning still low among faculty despite the training initiatives and infrastructure in place? Could it be that the training approach is not effective or lack of a framework to guide the training initiatives? According to Kanovsky and Or-Bach (2001), integrating e-learning in HEIs should be done gradually because it involves several groups of interest like students, lecturers, technicians, policy makers among others. Several salient issues concerning costs, quality assurance, and organizational culture among others often emerge during the process. This study therefore seeks to establish the contribution of training in eLearning in transforming academic staff practices in course design, delivery and assessment, examine critical factors necessary for full utilization of transformative pedagogy and to design an effective capacity-building framework for transformative pedagogy.

The study utilized Rogers and Shoemaker's (1971) Diffusion of Technological Innovation theory to try to understand the process through which new technological innovations are implemented. This theory suggests that adoption of an innovation goes through five stages. These include knowledge, persuasion, decision, implementation and confirmation. First stage is Knowledge and is the process of enlightening and provision of relevant information about the new technology, while persuasion is the second stage, which involves performing activities that convince the users to take-up the innovation. Third stage of Decision is when the users choose

to actually adopt or reject the technology, thereby resulting into two opposing groups (adopters and rejecters). During implementation which is stage four (4), some adopters stop using the technology while the rejecters may change and start using the technology. These are called late adopters. Confirmation is the 5th stage and presents 4 user groups at the end of the process i.e. 1) continued adopters (those who have continued using the technology), 2) later adopters (those who adopt late), 3) discontinuance (those early adopters who drop out), and 4) continued rejecters (those who maintain their rejections). The five phases of Rogers and Shoemaker (1971) Diffusion of Technological Innovation guided the study in determining the adoption patterns and characteristics of faculty who apply transformative pedagogy in their educational practices.

3. Research Design: Methods and Modes of Analysis

The study adopted a descriptive research design which assisted in obtaining a clear understanding of current Makerere University academic staff pedagogical practices and how these have been influenced by the training in eLearning that has been conducted over the years. The study was also largely a qualitative study in nature nevertheless, some quantitative data was also collected for example on the number of times the lecturers employ some specific teaching strategies. Ultimately, therefore, this study adopted a mixed method approach since it permits synergistic utilization of both qualitative and quantitative data (Creswell, 2013).

3.1. Sample

The study focused on investigating the contribution of training in eLearning in transforming academic staff practices in course design, delivery and assessment. To gather the relevant data, the study sampled academic staff, students, heads of departments and school deans. A criterion sampling technique was initially used to identify potential participants and then recruited the study's participants using a random sampling strategy.

Schools and Departments that participated in the study were purposively selected depending on availability of learning materials on MUELE. To identify potential participants for the study, those who were trained were identified and from the identified lecturers, five staff from each school were randomly selected as the study's participants. Students are the principal beneficiaries and were therefore key in providing information on how the academic staff teach, technologies utilized and how that has helped them to learn. A total of 150 students were purposefully selected from the 3 Schools as summaried in the following table.

	Category	Sample
1.	Deans from 3 Schools	3
2.	Heads of Department (2 from each school)	6
3.	Academic Staff (5 staff from each school)	15
	Students	150

3.2. Data Collection Strategies and Tools

Checklist for Interactivity. To showhow interactive the courses online are, courses were randomly sampled and assessed using a checklist based on four levels of interactivity; passive, limited, moderate and Interactive according to online interactivity levels according to Gutierrez (2012). A checklist was therefore designed around the indicators of the different levels of interactivity to establish how interactive the courses were.

Questionnaire

A questionnaire was used to gather this information from the lecturers and students. Information gathered from lecturers was on those who had undergone training in e-Learning to establish how the training has helped them transform their pedagogical practices, challenges they faced and what they recommend as ways in which training and mentoring can best be employed at Makerere University to promote transformative pedagogy. On students, the questionnaire sought to establish their views about the interactivity of the learning materials available on MUELE, their level of participation in the courses both online and offline and methods that the lecturers use to teach and assess them.

Interviews

This study utilized structured interviews to solicit for the views of the deans and heads of departments who supervise the lecturers sampled. These provided information about use of transformative pedagogies in their units, the training that staff have received on eLearning, the degree to which they believe this training has helped transform the lecturers' pedagogical practices and challenges faced while adopting of transformative pedagogy. They also shared

information on how best Makerere University can use training and mentoring to improve lecturer practice and enhance quality learning.

3.4. Data Analysis

The returned responses from questionnaires and observation checklist werechecked for completeness and accuracy and thereafter analysed using SPSS to generate descriptive and inferential statistics. Data from open-ended questions in the questionnaire and interviews were thematically analysed to generate themes.

For ethical and confidentiality purposes, respondents' names were not captured hence the responses provided could not be traced back to an individual respondent. Clear instructions were provided along each question. This addressed ethical consideration as provided by Snyder (2008), including least harm to the respondent, respect for autonomy, respect for dignity, justice, acting in ways that promote goodness, and truth telling.

4. Data Presentation and Analysis

Demographic Data

Background information was collected from the participants. Out of the sample 15 lecturers participants in the study sampled 80% responded to the questionnaire and provided the data analysed in this section. Five (5) of them were female while seven (7) were males. This cross section provided a good representation of balanced perspectives on the experiences of eLearning. The age bracket of those who participated revealed that 41 – 50 was 58.3%, 51- 60 was 16.7%, 60+ was 16.7% and 31- 40 was least represented with 8.3 %. Similarly, according the results majority of the participants were Ph.D holders (75%) and the rest were Master's holders (25%).
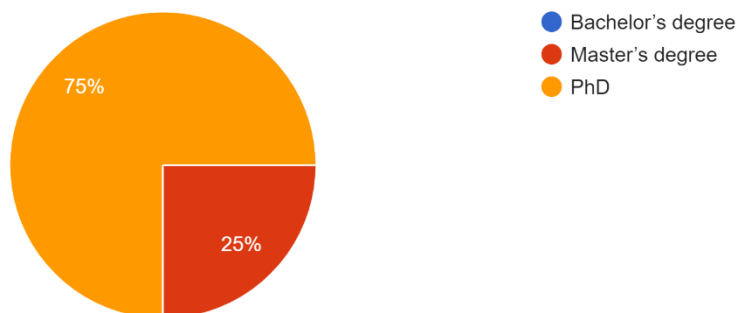
Gender

12 responses
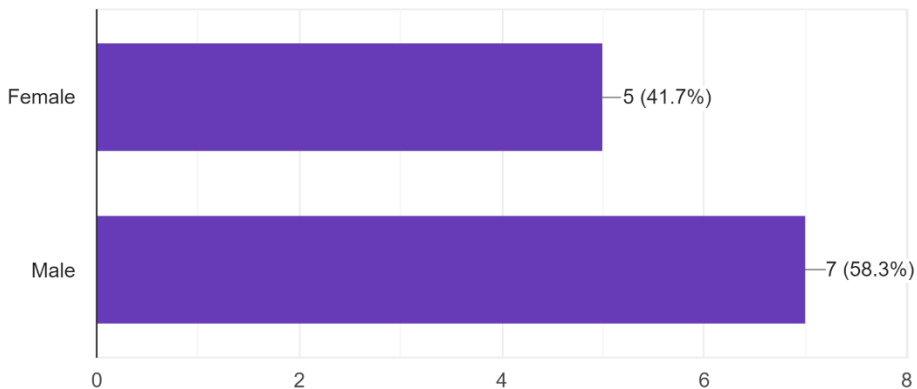
Age bracket

12 responses
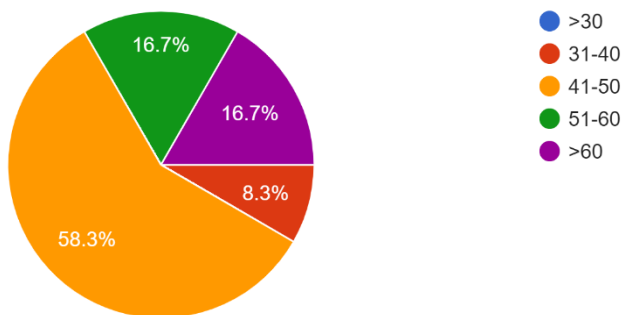
Highest Qualification.
12 responses

Legend:
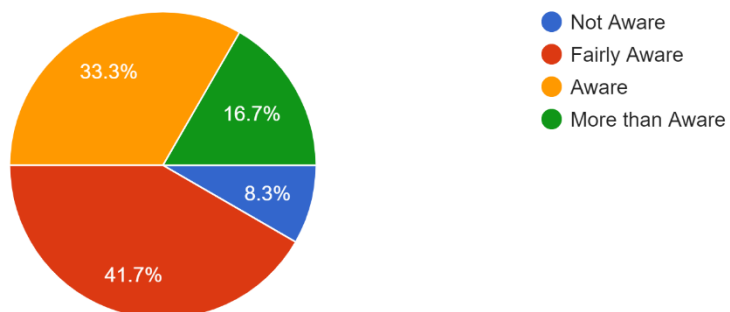- Bachelor's degree
- Master's degree
- PhD

75%
25%

Individual Capacity building for online pedagogy

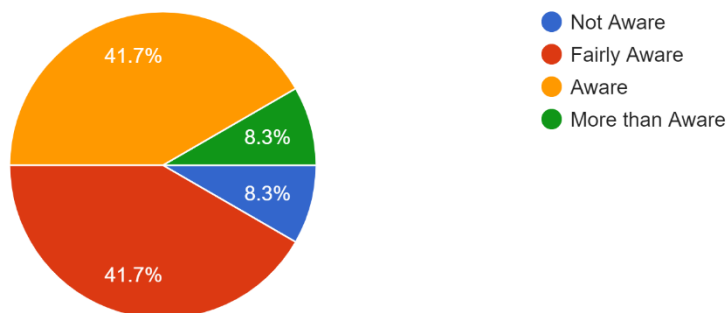Awareness about the Makerere University Policy on Open Distance and e-Learning (ODeL)

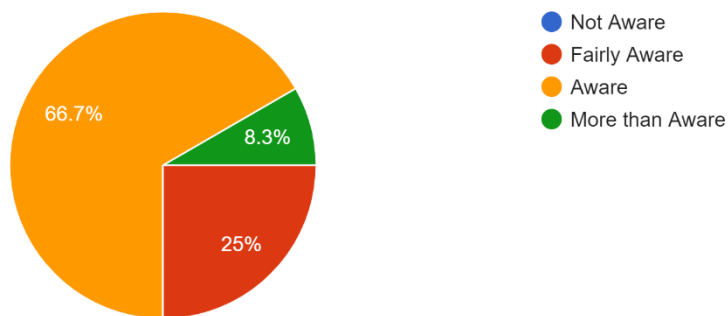eLearning Policy Objectives
12 responses

Legend:
- Not Aware
- Fairly Aware
- Aware
- More than Aware

33.3%
16.7%
8.3%
41.7%

Guiding Principles

12 responses

- ● Not Aware
- ● Fairly Aware
- ● Aware
- ● More than Aware

I have awareness about the Makerere University Policy on Open Distance and e-Learning (ODeL)

12 responses

- ● Not Aware
- ● Fairly Aware
- ● Aware
- ● More than Aware

About 66% of staff indicated that they have studied a course / program offered through e-learning approach and have also been able to design, develop and teach a course online through the trainings received in online pedagogy. While others indicated that 25% were fairly aware 8.3% more than aware. This implies that through the trainings offered by Makerere university and other development partners, staff have acquired relevant skills and knowledge in online pedagogy since they have been able to follow e-learning guiding principles for course design, development and assessment.

Training in using the learning management system

Makerere University uses a moodle platform called Makerere university e-learning environment (MUELE). The selected staff were asked to indicate if they have received any training on how to use MUELE for teaching and learning purposes? About 75% of them indicated that they received the training (25%) said they had not. They same results were also reflected on when asked about their experience in using of MUELE for teaching and assessment. The results therefore show that a good percentage of staff who have gone through training are able to teach and assess using MUELE platform as diagrammatically indicated below;
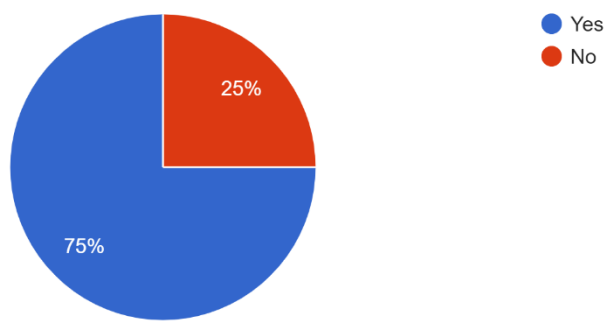
I have received training in using the MUELE platform
12 responses
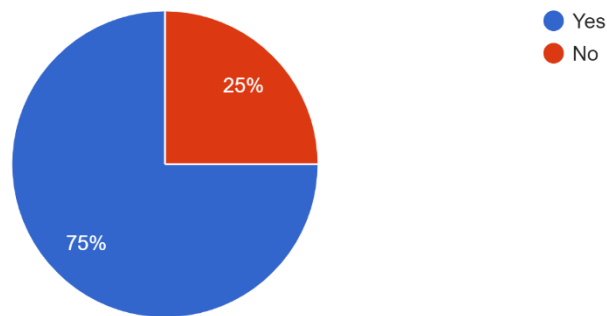
I have prior training on using other LMS other than MUELE to teach
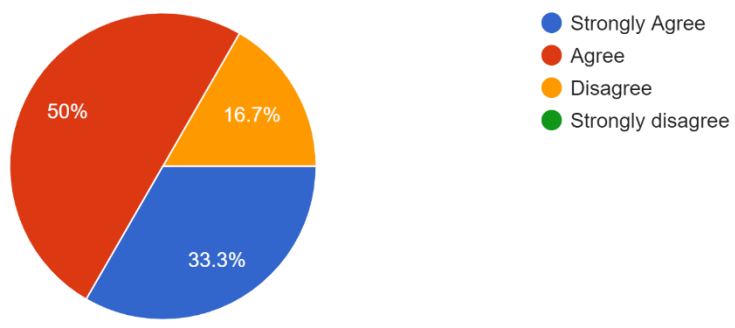12 responses
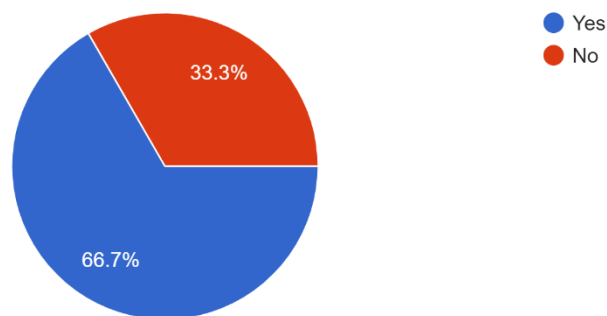
I have received training on using MUELE for assessment
12 responses

The knowledge and skills in navigating the platform as well as using some collaborative tools like the discussion forum and chat room were also interrogated to establish whether the staff have indeed acquired skills to effectively facilitate a course online. About 50% and 33.3% respectively agreed that they can comfortably navigate the MUELE platform. However, as much as many were able to navigate the platform (83%), some staff indicated that they still struggle with managing discussions on the platform, creating quizzes, uploading reading materials like videos and audios as seen below;

Easily navigate through the MUELE Platform
12 responses

Manage a focus group discussion in MUELE
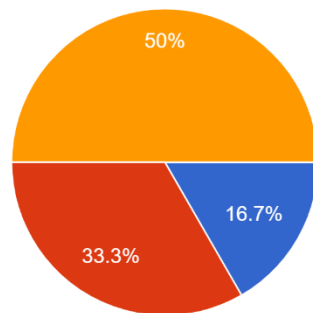12 responses
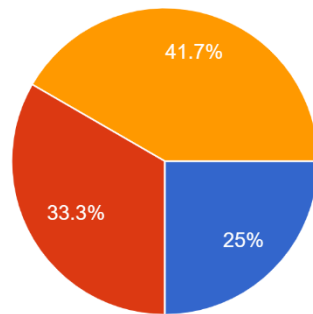
- Strongly Agree
- Agree
- Disagree
- Strongly disagree

41.7%
33.3%
25%

Easily create quizzes in MUELE
12 responses

- Strongly Agree
- Agree
- Disagree
- Strongly disagree

50%
33.3%
16.7%

Design collaborative (group) activities for my online course
12 responses

- Strongly Agree
- Agree
- Disagree
- Strongly disagree

50%
25%
25%
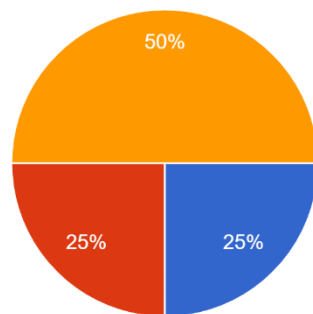
The implication of these findings is that there is need for continuous training of staff to horn their skills in online pedagogy as emphasized by Goktalay (2006) that staff development is a key factor for successful implementation of any technological innovation in education.

Students' Experiences in e-Learning

The study sampled 150 students to participate in the study. Students had different experiences with these various teaching and learning methods used in e-Learning the use of discussion forums for collaborative activities, quizzes and use of multimedia resources as shown in the bar graphs below;

Chatroom

144 responses
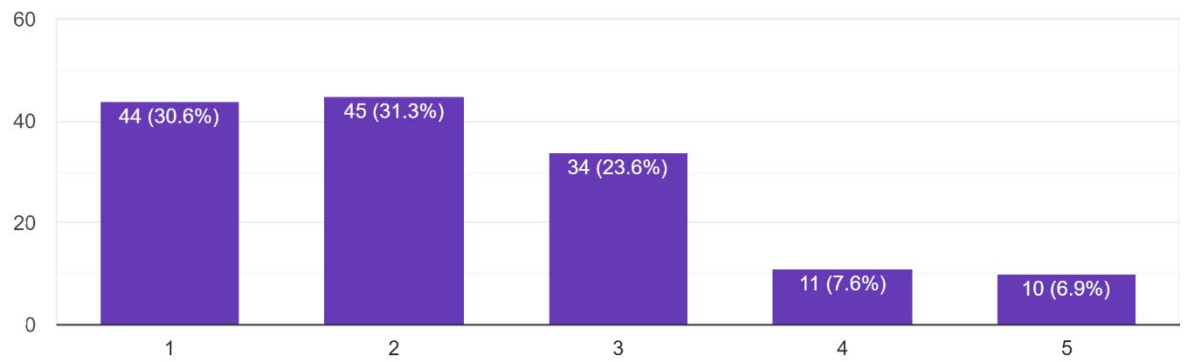
Quizzes

152 responses

Watching videos

151 responses

The students shared their elearning experiences as seen from some selected quotes below;

"Discussion forums are the best because they give students exposure to various ideas from other students. However, some students would not participate in the online discussions because they lacked laptops or smart phones as well as data to enable them connect"
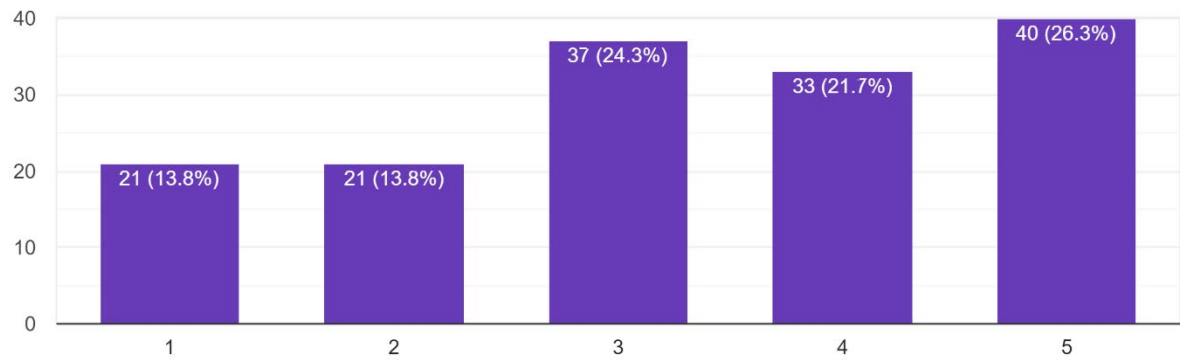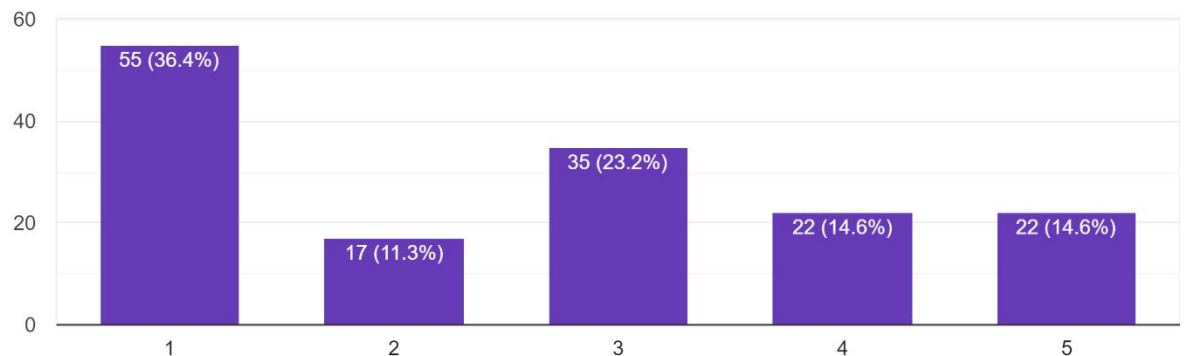
"Quizzes are vital in helping us to assess our academic progress however, poor network has always affected my full participation in online activities. Sometimes the time may expire without completing the task and yet they contribute to my coursework marks thus affecting my performance. Due to poor network still, I could join the chatroom without knowing the topic of discussion and the lecturer didn't give attention to students who were on and off due to network'.

'Using discussion forums, we are given a series of questions to be answered and discussed as group, though each individual first gives their own answers and then later others are free to add a comment or disagree with what you have discussed. I loved the discussion forums because everyone was given a platform to share their minds about a given topic especially the jewelry class. The discussion forums have been of a great importance that they help some of us who work as we study and also the interactions between the students under discussion forums are of great use. This helped me to achieve and understand or get or bore different ideas from my fellow learners and also helping to continue with the students using online. At first I didn't know how to participate

in the discussion forum but now I know how to reply my fellow students and answer the questions as required'.

The videos enhanced the reading materials by providing another mode of expression since most of the are majorly text oriented. This helped to break the monotony of reading to watching hence making the learning exciting. The videos were also found helpful because unlike the lectures, you can always to watch it over and over for clarity and understanding of concepts. I however found challenges in learning through watching videos due to cost ineffectiveness.

The selected students quotations confirm that they have indeed been exposed to some of these eLearning teaching and learning practices and the challenges highlighted by the students needs to be addressed in order to realise the intended educational goal of adopting those instructional strategies. Important to note however, is that, poor network and high costs of data for students remains a challenge to effective implementation of online pedagogy at Makerere University. According to Muyinda et al (2019), MUELE was not fully functional not only to support remote learning but also to be a accessed on mobile phones. The majority of the institutions' bandwidth was insufficient for seamless access to and uploading of large files.

From both quantitative and qualitative above, there is evidence that the staff have tried to implement online pedagogy in terms of provision of collaborative activities using the discussion forum, quizzes given after the students engaging with the study material as well as use of variety of teaching modalities like use of videos. Some of the selected students quotations confirm that theyhave indeed been exposed to some of these elearning teaching and learning practices. Important to note however, is that, poor network and high costs of data for students remains a challenge to effective implementation of online pedagogy at Makerere University.

Online Assessment of Student's learning

The staff interviewed indicated the following assessments methods used in their classrooms with end of semester examinations being the commonly used. As you will observe these examinations are usually conducted phyisicallynot online. This therefore indicates that as much as staff have been trained in online assessment, these skills are not being implemented. According to the respondents, this method was used consciously due to limited knowledge in guarding against examination malpractices associated with online education. Take home

examinations and online discussions on the otherhand are comfortably used by lecturers as seen in the results below.

Which of the following assessment methods do you use to assess your learners?

6 responses

Assessment method	Value
End of semester examinations	6 (100%)
Take home examinations	5 (83.3%)
Open Book	0 (0%)
Project	4 (66.7%)
Term Papers	1 (16.7%)
Online discussions	5 (83.3%)
e-portfolios	1 (16.7%)
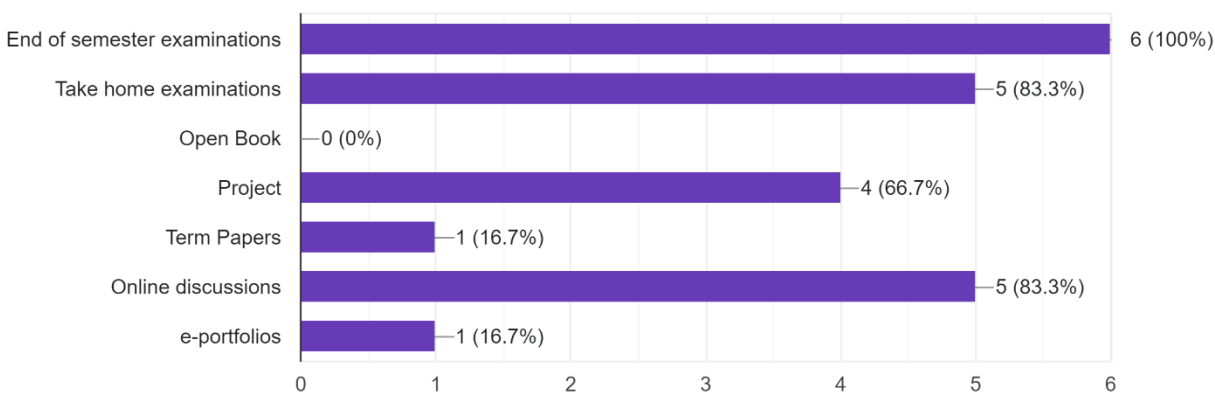
According to some of the respondents;

"Take home exams are good and more engaging for the students. However, they require skills in order to design them. But once well set, take home exams allow creativity and curb copying by students especially if they are authentic activities". Respondent 1

"Take home examinations and project based have helped in reducing on the cheating associated with online assessment". Respondent 2

"Online discussion requires tutor presence to guide the discussion, otherwise it might take a different direction". Respondent 3

From the students quotations, we observe the need to address challenges associated with some online strategies adopted by the lecturers. For example, while using online discussions for teaching and learning, the tutors' presence is very key in guiding learners. If they are left on their own, they can easily mis lead each other. Similarly, take-home examinations should be designed carefully to avoid examination malpractices by mostly using authentic axtivities which require students to apply their acquired knowledge and skills in solving day to day problems.

Challenges were also cited in creating quizzes, providing instant and timely feedback using the platform and difficulty in designing a gradebook. This was equally attributed to short

period of training in this area since they are not only highly technical in nature but also requires time to prepare them. as shown in the results above.

Easily create quizzes in MUELE
12 responses

- ● Strongly Agree
- ● Agree
- ● Disagree
- ● Strongly disagree

50%

16.7%

33.3%
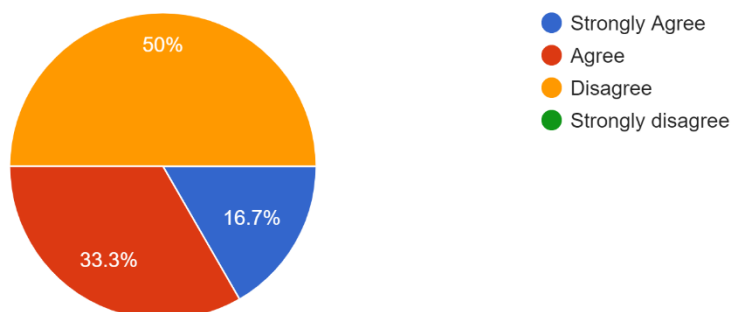
Easily make a gradebook for my course
11 responses

- ● Strongly Agree
- ● Agree
- ● Disagree
- ● Strongly disagree

54.5%

18.2%

27.3%
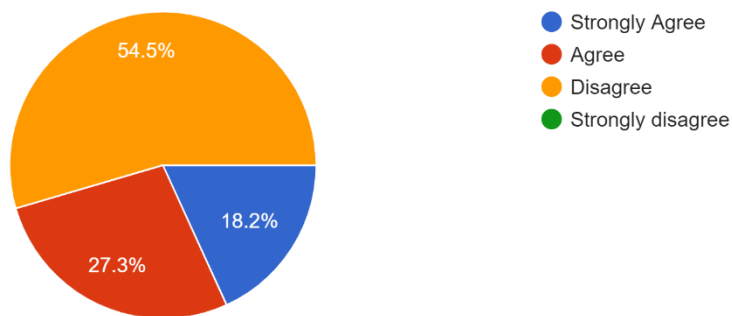
Impact of training in online pedagogy on teaching practices

The lecturers indicated that the e-learning trainings received have helped them to improve on their teaching practices. This is seen in their confidence while teaching after following instructional design principles for e-content development, ability to interact with the students on a large extent, ability to use student centered approaches to teaching by encouraging collaborative learning practices, timely feedback on students' work, online assessment and brainstorming using interactive tools like mentimeter and padlets. These have

helped students to be innovative, develop critical thinking skills as well as knowledge construction.

The study also revealed that in addition to adoption of online teaching and learning practices, different technologies and tools are deployed to support online activities. The results below indicate that the MUELE platform is being used 100% followed by zoom zoom at 83% and the email at 67%.

Technologies and tools being used for online teaching and learning

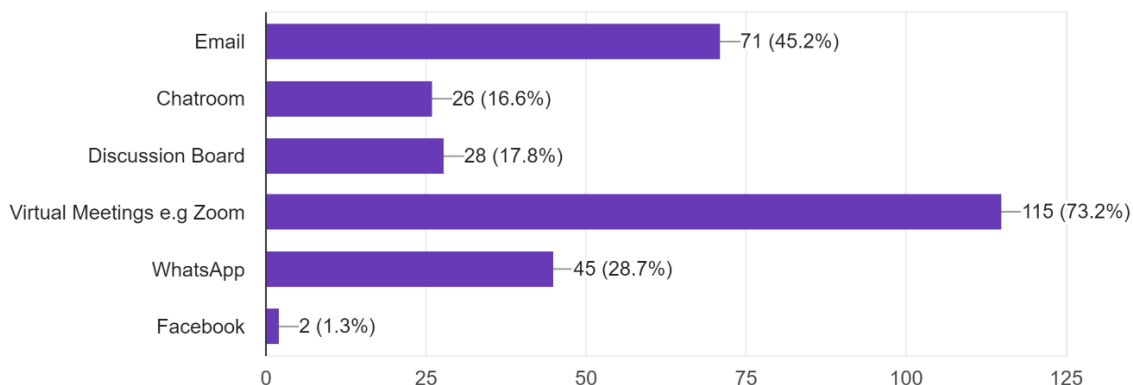What technologies / tools/systems are you using to conduct your classes
6 responses
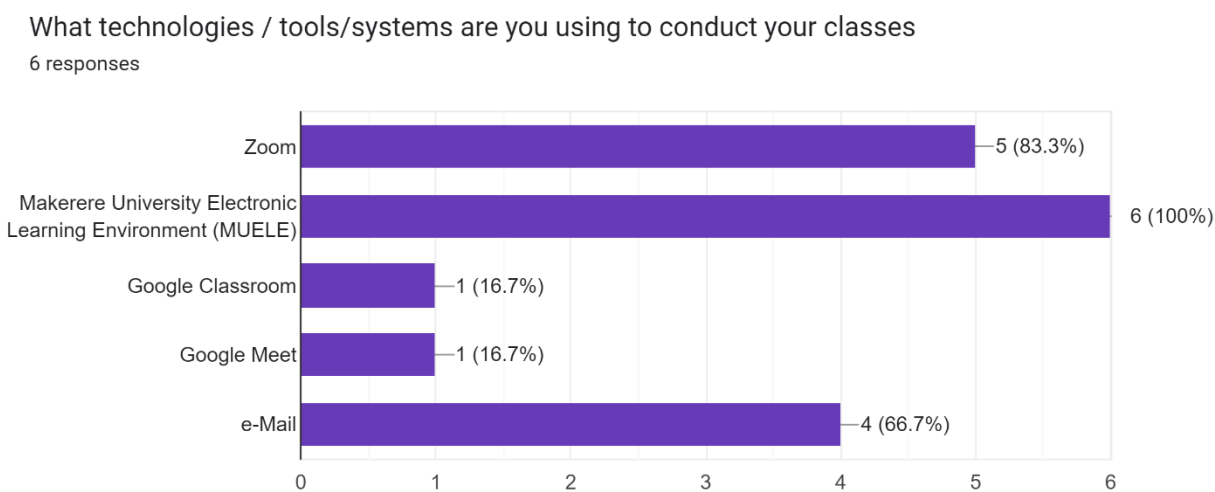
It important to observe that as much as MUELE appears to be utilized fully, the observation tool showed otherwise. The interaction logs on MUELE indicate that there is very interaction between the lecturers and students. That means the courses are there on MUELE but the lecturer is not present to facilitate the learning process. Most of the courses identified as having been fully developed, are at level 1 interactivity according to (Gutierrez (2012). This level is mainly useful for conveying straightforward ideas. The uploaded courses do not give students a high degree of interaction. For example simulations and the contents are not transmitted through the use of educational games to keep the student motivated. Some of the challenges highlighted while using these technologies is the limited skills in online facilitation for instance managing collaborative activities and providing timely feedback. The results from students also revealed a different scenario where zoom was highlighted as the most used tool and email as compared to the MUELE. The popularity of zoom and email among the lecturers

is mainly attributed to inadequate online facilitation skills using the LMS. The results are displayed below;

Which of the following communication/collaboration tools do you use while undertaking this programme? Tick the appropriate box

157 responses

Tool	Responses
Email	71 (45.2%)
Chatroom	26 (16.6%)
Discussion Board	28 (17.8%)
Virtual Meetings e.g Zoom	115 (73.2%)
WhatsApp	45 (28.7%)
Facebook	2 (1.3%)

Challenges of Implementing Online Pedagogy

The major challenge that was pointed out the staff as a hindrance to smooth adoption and implementation of online pedagogy was poor network connectivity due to low bandwidth leading to breakdowns due to large numbers of users.

High costs of data was raised by staff especially when they are off campus. This cost is also transferred to students which majority stay off campus. This accompanied cost has made students get a negative attitude towards e-learning. It has discouraged them from embracing the new mode of teaching and learning.

Heavy workload in terms of teaching and research supervision consumes a lot time as such time for online activities is not there. The university management should integrate motivation mechanisms in eLearning activities to make them attractive.

Still related to students, another challenge highlighted by staff was lack of working devices among students like desk tops, laptops etc. Majority of the students do not own computer, instead they rely on computer laboratories on campus. This therefore means when

they are off campus, they can only use their phones which also have limitations in terms capacity and screen size.

Proposed Framework for Capacity Building for Online Pedagogy

Using the information gathered from the literature survey, Rogers and Shoemaker's (1971) Diffusion of Technological Innovation theory and the results of the empirical data, a framework for capacity-building for online pedagogy in Makerere University has been proposed. This framework is an improvement on Rogers and Shoemaker's (1971) five stages which puts into consideration our local context where the innovation is being introduced. Some other activities have been introduced in these stages to facilitate adoption of technological innovation based on our context. These are highlighted in the framework below;
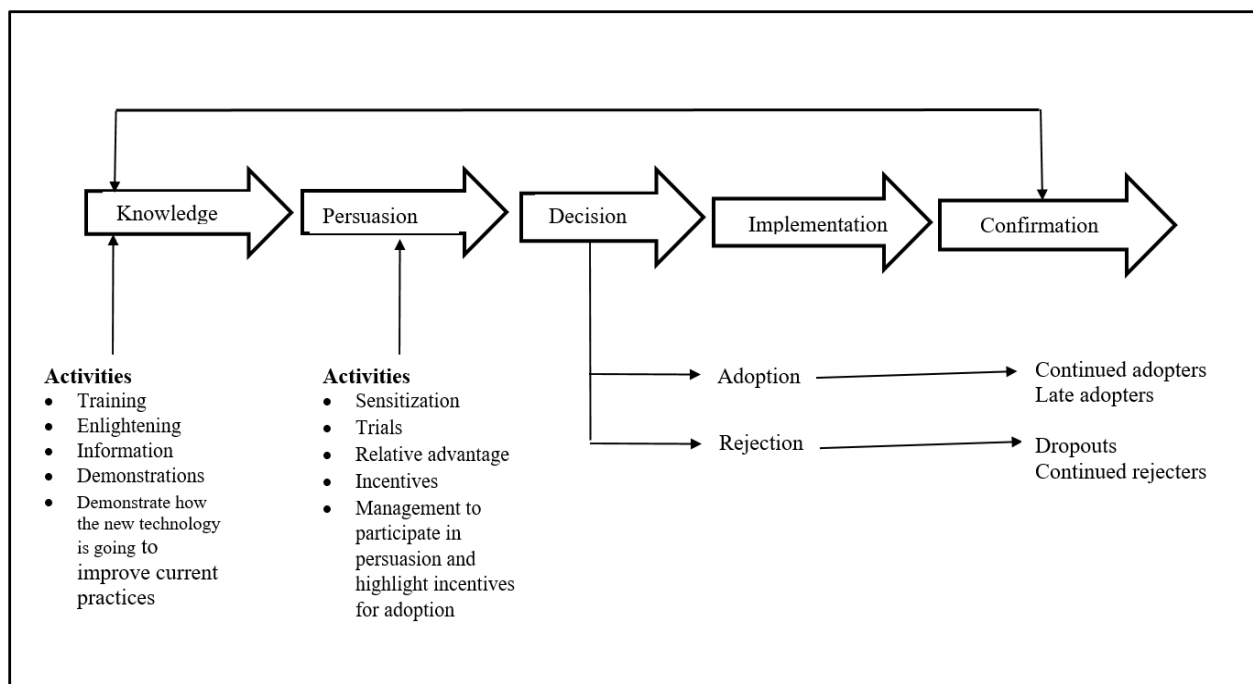
Knowledge – According to Roger's model the Knowledge level enlightens and provides relevant information about the new technology. In our context in addition to information, the users need sensitization on how the new technology is going to improve your practices.

*Persuasion –*At persuasion stage*,* besides performing activities that convince the users to take-up the innovation according Roger's model, in our context at this stage, the role of leadership is key in getting staff to come on board by participating in persuasion and highlighting of incentives for adoption.

Decision – At stage 3 when the users choose to actually adopt or reject the technology according Roger's model, availability of working infrastructure in our context matters a lot before one makes a decision. There is therefore need to provide staff with computers and internet to facilitate decision making to adopt or reject the technology since it can always be used as a scapegoat.

Implementation – At this stage according to Roger's model, some adopters stop using the technology while the rejecters may change and start using the technology. In our context however, successful implementation is require also funding to ensure sustainability, supportive working policy, mentoring group. These factors would assist in sustaining the adopters as well as attracting the rejectors to join.

Confirmation – which is the stage 5, the presents 4 user groups at the end of the process i.e. 1) continued adopters (those who have continued using the technology), 2) later adopters (those who adopt late), 3) discontinuance (those early adopters who drop out), and 4) continued rejecters (those who maintain their rejections) will remain even in our context

5. Conclusions

The uptake of Online Pedagogy at Makerere University is growing however, as a relatively new mode of study, there is need for continuous sensitization and training of both staff and students so as to acquire the necessary skills, knowledge and attitudes for effective adoption of eLearning. Adopting Roger's model in consideration of our context will assist us the framework in context the This assertion is consistent with what Goktalay (2006) established that staff development is a key factor for successful implementation of any technological innovation in education.

This is because most staff have been trained to teach using traditional methods and therefore require gradual adjustment while integrating technology in their teaching practices. Kanovsky and Or-Bach (2001) similarly, asserts that integrating e-learning in HEIs should be done gradually because it involves several groups of interest like students, lecturers, technicians, policy makers among others.

6. Recommendations

Since e-learning comes with a lot of technical aspects in its operation, the university should ensure continuous training and mentoring of both staff and students in the use of new and emerging tools for both teaching and learning. For instance, more training is needed in the production of multimedia study materials like videos and podcasts using universal design principles so as to reach a variety of learners accessing them. Designing and developing online courses is no mean activity. The university should come up with a mechanism of motivating staff since teaching online involves working outside official working hours. This will encourage staff to embrace the new mode of study. Related to the above is the need for more training in the area of online facilitation. Otherwise as much as some courses are online, effective facilitation is missing because lecturers lack the skills to create collaborative activities, manage discussions on the forums and provide timely feedback. Since assessment is a very important aspect in the teaching and learning process and the results reflect that the staff are not well conversant with the different online assessment methods, there is therefore a need for more training of staff in different online assessment methods and grading to support provision of instant and timely feedback to students

For excellent user experience with eLearning, the university should improve on the technology infrastructure like increasing the bandwidth to enable network stability for both staff and students. Working devices like desktops and laptops should be provided to both students and staff at subsidized costs to enable affordability and access.

Since assessment is a very important aspect in the teaching and learning process and the results reflect that the staff are not well conversant with the different online assessment methods, there is therefore a need for more training of staff in different online assessment methods and grading to support provision of instant and timely feedback to students.

References

GÖKTALAY, S. B., & Ocak, M. A. (2006). Faculty adoption of online technology in higher education. *TOJET: The Turkish Online Journal of Educational Technology*, *5*(4).

Mallinson, B., & Krull, G. (2013). Building academic staff capacity to support online learning in developing countries. *Journal of Asynchronous Learning Networks*, *17*(2), 63-72.

Muyinda, P. B., Mayende, G., Maiga, G., & Oyo, B. (2019). Widely Acclaimed but Lowly Utilized: Congruencing ODL Utilization with Its Wide Acclaim.

Marchand, G. C., & Gutierrez, A. P. (2012). The role of emotion in the learning process: Comparisons between online and face-to-face learning settings. *The Internet and Higher Education*, *15*(3), 150-160.

Mayoka Kituyi, G., & Kyeyune, R. (2012). An analysis of e-learning information system adoption in ugandan universities: Case of makerere university business school.

Mugaba V, (20th Feb 2002) No School for 100,000; Minister Named in Election Fraud, Enter Uganda. Rogers EM (1995). Diffusion of innovation. The Free Press, New York (1995). Rogers EM, Shoemaker F (1971). Communication of Innovations: A cross-cultural approach. (Re-titled 2nd edition of 'Diffusion of Innovations'). New York: Free Press