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# USABILITY OF INFORMATION AND COMMUNICATION TECHNOLOGY FACILITIES AND E-PEDAGOGICAL PRACTICES WITHIN SELECTED UNIVERSITIES IN KAMPALA UGANDA

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## ABSTRACT

This research was about Usability of ICT facilities and e-pedagogical practices within selected Universities in Kampala Uganda. The purpose of the study was to examine the relationship between the Usability of ICT facilities and e-pedagogical practices within the selected Universities in Kampala Uganda. The Objectives of this study were; to determine the levels of usability of ICT facilities within the selected Universities in Kampala Uganda, to identify the e-pedagogical practices within the selected Universities in Kampala Uganda and to establish the relationship between the usability of ICT facilities and e-pedagogical practices within the selected Universities in Kampala Uganda. The descriptive correlation research design was used. The study employed simple random and clusters sample techniques and the respondents were lecturers with a total population of 338 who were sampled to 229. The main instrument was a questionnaire that was distributed to the respondents. The researcher Analyzed data from 229 completed questionnaires. Data was analyzed using mean, frequency, charts and percentage distribution table. The findings showed that computer software such as Microsoft office is most usable within selected Universities in Kampala Uganda. Considering the general mean, Computer software is most usable followed by computer hardware then Internet facilities is the least usable in the selected universities. From the overall mean it was found out that the usability of ICT facilities within selected Universities is Moderate. E-teaching is the most practiced e-pedagogical practice within the selected Universities. Considering general mean, e-teaching is the most practiced e-pedagogical practice followed by e-preparation then e-evaluation is the least practiced within the selected universities in Kampala Uganda. The overall mean shows that E-pedagogical practices are sometimes practiced within the selected Universities. Research indicated that there is a relationship between Usability of ICT facilities and e-pedagogical practices within selected universities in Kampala Uganda. It is therefore recommended that Universities should sensitize the lecturers on how useful and how easy it is to use ICT facilities to enhance e-pedagogical practices.

**Keyword:** ICT Facilities, Usability, Pedagogy, E – Preparation, E – Teaching, E – Evaluation /E – Assessment.



## 1. INTRODUCTION

When the first computers made their entry into schools in the late 1970s, Lecturers used to speak about computers in education. With computers came printers, floppy disk drives, scanners and the first digital cameras. The term IT, or Information Technology began to be used to describe computers and these various peripheral devices. Then the internet arrived together with computer networks, the World Wide Web, email and search engines. A new term entered the language ICT. The term ICT, short for Information and Communication Technologies, embraces the many technologies that enable us to receive information and communicate or exchange information with others. When ICT started being used in Education, it became e-education which resulted into e-pedagogy (UNESCO, 2010)

It is difficult and maybe even impossible to imagine future education environments that are not supported, in one way or another, by Information and Communication Technologies (ICTs). When looking at the current widespread diffusion and use of ICT in modern societies, especially by the young “the so-called digital generation” then it should be clear that ICT will affect the complete pedagogical practices today and in the future to e-pedagogical practices. Information and Communication technologies (ICTs) have not only changed the learning process for the students but also the teaching theories, models and practices such as Technology acceptance model, e-teaching, e-evaluation (Allan et al, 2010)

Research studies around the world show that ICTs help to broaden access to education as well as improve learning outcomes. At the same time, research indicates that success in using ICT in education depends on teachers’ skill in integrating ICT and pedagogy and in utilizing ICT to provide learner-centred interactive education (UNESCO, 2007).

ICTs are now widely used in university classrooms both by lecturers and students in the Unites States of America. University students frequently have access to computers in class. Sometimes, the university provides personal computers (PC), but increasingly, the installation of wireless loops allows lecturers to use their own laptops for access to the Internet anywhere in the university buildings, including in class. Lecturers however are getting used to the idea that they have to compete with the Internet and e-mail for their class’s attention (Frances, 2009). In Walden University, the current ICT policy of the emphasizes the use of technology to efficiently deliver online content and assessments and to provide principals, teachers, and parents with student performance and attendance data that can be used to personalize instruction, support decision making and the allocation of resources, and promote accountability (Robert, 2010).

In case of the United Kingdom, a teacher is now an e-Teacher who is fully equipped with the knowledge and applications of different digital gadgets in preparing for lecture, delivering to students, as well as evaluating and assessing purposes. Recently, researchers within the Inclusive Practice Project (IP Project) at the University of Aberdeen pioneered an approach to initial teacher education to ensure that teachers have the pedagogical knowledge to respond to the challenges of inclusive education by using ICTs (Florian and Rouse, 2009).

Distance education programs have been regulated differently from campus-based programs of higher education in Japan. Over 229,734 students in year 2008 were seeking degrees at a distance in 41 universities who provide distance learning undergraduate programs, accounting for 9.1% of total higher education enrollees. As regular higher education institutions in Japan mostly cater to the needs of full-time students enrolling directly from high school, a majority of adult learners opt to enroll in distance education programs. Out of the 41 universities, 37 are universities that have both on-campus education and distance education programs, while four universities were distance learning institutions. Though the majority of distance education institutions in Japan used print-based materials for instruction, one unique distance education institution (Open University of Japan) was established in 1983 with the aim of using ICT in its education system. The institution utilized radio and television broadcasting as the major mode of instructional delivery and online assessment as well as online results. It was named as the University of the Air (in Japanese it is called “Hoso Daigaku”) which is renamed as the Open University of Japan in November 2007 (Kumiko, 2010)



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Educational ICT tools are not for making educators master ICT skills themselves, but for making educators create a more effective learning environment via ICT. In India, Teachers can utilize ICT tools to get benefits from using these tools in the areas of content, curriculum, instruction, and assessment. Interactive whiteboard helps teachers to structure their lessons, supports collaborative learning, can help to develop student's cognitive skills, enables ICT use to be more integrated into classroom (Sharmila et al, 2012). The emergence of various Information and Communication Technologies (ICTs) and their increasing usage by Universities in India provided unique opportunities like Lovely Professional University being declared as the Best ICT Enabled University of the Year through Ministry of Communications and IT (ICT In school Education, 2010)

There is e-pedagogical practices excellence especially e-learning and world class ICT in education happening right across Africa. There are barriers for sure but with the right and correct usage, it's possible for ICT to improve on e-pedagogical practices in Africa. Better ICT Usage can better prepare students and teacher for life and work in a rapidly changing global labor market, make learning and teaching more efficient with e-pedagogical practices than traditional method. Wireless networks are developing at a rapid rate in most countries in Africa with the goal of facilitating general access to mobile phone technology and to broadband networks (Glen, 2007).

The Ministry of Higher Education in Cameroon therefore has the overwhelming responsibility to streamline issues of ICT to suit its contribution to nation building via state owned and private universities concerning e-pedagogical practices. One of the responses being considered is the use of ICT in conjunction with traditional methods of educational delivery. This decision will be determined by the opportunities offered by technologies, which are progressing and becoming increasingly accessible and simplified for users. Students have demonstrated their ability to handle all sorts of technological gadgets for learning, and a growing number of teachers are being trained in ICT and educative pedagogy. (e -Learning Africa report, 2012).

According to the Inter-University Council for East Africa (IUCEA) in the ICT policy plan (2009), IUCEA's ICT in Education policy statements are; The IUCEA shall promote the utilization of ICT as a tool for teaching, learning and research, The IUCEA shall promote best practices in e-learning, distance education and virtual university systems within the universities in East Africa, The IUCEA shall promote the use of common e-learning management platforms and sharing of content, The IUCEA shall promote the application of distance education/virtual university systems in East Africa in order to widen access to higher education, especially to traditionally marginalized groups, The IUCEA shall facilitate the development of a reusable learning objects repository for the purposes of sharing content.

In Kenya, the challenge confronting educational systems is how to transform the teaching process to provide lecturers with the skills to function effectively in this dynamic, information-rich, and continuously changing environment. ICTs provide an array of powerful tools that may help in transforming the present isolated, teacher-centred and text-bound classrooms into rich, Teacher-focused, interactive knowledge environments. To meet these challenges, learning institutions in Kenya must embrace the new technologies and appropriate ICT tools for pedagogical practices (Elijah, 2005). Nairobi University was connected to an internet service provider (ISP) that enabled it to periodically download e-mails. This University, with little knowledge of the potential of e-mail in instruction and limited networks, left internet service to the wits of a few individuals who later abandoned it (Tusubira, 2005). In 2005, with the large number of students, traditional modes of teaching in Nairobi University became quite limiting. From analogue file management system of large box files with immense papers, there was a dig through the digital world of computing and networking as innovations (Michael, 2011)

The past few years witnessed a host of activities aimed at injecting ICT in Tanzania's education sector. From the International Institute for Communication and Development (IICD)-supported roundtable in Bagamoyo where 11 ICT for education projects were formulated to the Swedish International Development Agency (SIDA)-supported stakeholders forum of January 2005, which saw the birth of the Tanzania eSchools initiative and many other activities in between. All this has, as a result, tremendously increased the awareness of the benefits of ICT within the Education sector (Harry, 2007).



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In year 2003, Uganda developed its initial ICT national policy. The policy framework document recognised that Uganda would need to embrace the goal of “lifelong education for all.” Objective 2 of the policy addresses literacy improvement and human resource capacity-building with strategies that include Integrating ICT into mainstream educational curricula as well as other literacy programmes to provide for equitable access for all students regardless of level, Developing and managing ICT centres of excellence to provide basic and advanced ICT training, Setting up mechanisms that promote collaboration between industry and training institutions to build appropriate human resources capacity and Promoting the twinning of training institutions in Uganda with those elsewhere to enhance skills transfer.

An ICT policy for schools together with the evolution of the national policy has provided impetus for the Ministry of Education to expand its focus on the use of ICT. While the national policy focuses on the importance of developing the ICT competencies of learners, the interpretation by the ministry appears to be moving toward a more integrated vision. (Glen, 2007)

Currently the Ministry of Education and Sports in Uganda is taking steps to co-ordinate ICT development and has allocated resources to support implementation of its ICT strategy. The Islamic University in Uganda is the only university with a student e-voting system in operation. It is steadily integrating its information system through strengthening its Enterprise Resource Planning system. This has enabled the University to buy computers, thus improving the student-computer ratio. Construction of modern Student Computer Labs is one of the major projects aimed at increasing ICT knowledge and making internet accessible to all lecturers and students. Distance learning courses at UIU are offered through print materials i.e. modules. Computer mediated learning is also conducted in some Departments at a lower level. Distance learning courses at Kampala International University (KIU) are offered through print materials i.e. modules. Computer mediated learning is also conducted at respective Regional Centres at no extra cost for students. For the past years, KIU has been using ICT as an enhancement tool in its pedagogical processes. However, the level of enhancement is not satisfactory considering the low number of staff that has adopted and used ICT for teaching (John et al, 2013)

On average, lecturers who use ICT-based instruction putting in practice the e-pedagogical practices deliver higher than lecturers without computers and the e-pedagogical components (Kulik's, 1994). The gap could be due to usability of ICT facilities. According to (John et al, 2013), Many Universities in Uganda especially in Kampala have improved ICT infrastructure such as Computer hardware, computer software and internet facilities in the recent years compared to earlier stages. But the question is, are these ICT facilities being used to enhance e-pedagogical practices such as e-preparation, e-teaching and e-evaluation? This is why the researcher is interested in examining the relationship between the Usability of ICT facilities and e-pedagogical practices

### ***Statement of the problem***

The rapid growth in information and communication technology (ICT) facilities in Universities in Kampala over the last few years opened up possibilities for Lecturers and students to benefit from e-pedagogical practices. Although advances in ICTs have helped to create the infrastructure required for the promotion and delivery of e-pedagogical practices, some Universities have not been able to use the available Technologies in the pedagogical practices and this is why they still use the non-electronic (traditional) pedagogical practices. This affects lecturers' performance in delivery hence poor students' performance. It was therefore important to determine the level of Usability of ICT facilities and e-pedagogical practices

### ***Purpose of the Study***

The purpose of the study was to examine the relationship between the Usability of ICT facilities and e-pedagogical practices within the selected Universities in Kampala Uganda.



### ***Research Objectives***

1. To determine the levels of usability of ICT facilities within the selected Universities in Kampala Uganda
2. To identify the e-pedagogical practices within the selected Universities in Kampala Uganda
3. To establish the relationship between the usability of ICT facilities and e-pedagogical practices within the selected Universities in Kampala Uganda.

### ***Research Questions***

1. What is the level of Usability of ICT facilities within the selected Universities in Kampala Uganda?
2. What are the e-pedagogical practices used within the selected Universities in Kampala Uganda?
3. What is the relationship between the usability of ICT facilities and the e-pedagogical practices within the selected Universities in Kampala Uganda?

### ***Null Hypothesis***

There is no significant relationship between the usability of ICT facilities and e-pedagogical practices within the selected Universities in Kampala Uganda.

### ***Scope***

#### **Geographical scope**

The study was carried out in Kampala International University (KIU) Main Campus and Islamic University in Uganda (IUIU), Kampala Uganda. Kampala International University is located at [Kansanga](#), a location in the southeastern part of [Kampala](#) city along Ggaba Road. IUIU is located at Kibuli hill in the center of [Kampala](#) city. The choice of these institutions was based on the fact that they are one of the highest ranked institutions in Uganda in terms of the quality of education, student population and ICT adoption (John, 2013).

#### **Theoretical scope**

This study employed the Technology Acceptance Model (TAM) Theory by Davis (1989). TAM is an adaptation of the Theory of Reasoned Action (TRA) to the field of IS. TAM states that the perceived usefulness and the perceived ease of use determine an individual's intention to use a system with intention to use serving as a mediator of actual system use.

The Usability of ICT facilities is likely to support efforts of increasing participation in e-pedagogical practices such as e-preparation, e-teaching and e-evaluation as it creates teaching environments that are free from barriers of space and time as well as quality outcomes. Research is needed in each case so that informed decisions are made in design, development and deployment of ICT components in supporting teachers.

#### **Content scope**

The variables covered in this study are the usability of ICT facilities and e-pedagogical practices. ICT Facilities such as Computer hardware (projectors, scanners, and printers), Computer software (Word processing software, spreadsheet software, database management software and graphics software) and Internet facilities (email, World Wide Web, online discussions, e-journals and online library catalogs). E-pedagogical practices include e-preparation, e-teaching and e-evaluation.

### ***Significance of the Study***

To the Ministry of Education, the research will guide in the policy making, plan and implementation process and in Curriculum Development.

This research will guide in implementation of e-pedagogical practices in Universities

The study will help Lecturers to overcome physical barrier by getting more involved in e-pedagogical practices especially e-teaching.



## 2. REVIEW OF RELATED LITERATURE

This chapter addresses issues such as the concepts, opinions, ideas from Authors, related studies and views on theoretical perspective. The findings from the literature study served an essential role in supporting or opposing the findings from this research.

### *Concepts, Opinions, Ideas from Authors/ Experts*

#### **Usability Levels of Information and Communication facilities within Universities**

Information and Communication Technologies (ICTs) have become key tools in educational methodology and curriculum delivery globally. It has been identified as an indispensable instrument for the development of quality teaching and learning in the education system. ICT is fundamental for the preparation of students in meeting the innovations in the global arena (Ololube, 2006). The growth of information and communication technologies has dramatically reshaped teaching and learning processes in higher education (Pulkkinen, 2007).

Information and Communication Technology (ICT) has become, within a very short time, one of the basic building blocks of modern society. Many countries now understand the importance of ICT and mastering the basic skills and concepts of it as part of the core of education. Organizations, experts and practitioners in the education sector increasingly recognizing the importance of ICT in supporting educational improvement and reform. (Raju, 2008)

*The use of Information and Communication Technologies in Universities makes teaching/ learning process effective and interesting. To know the impact of ICT in education, we need to know two basic things: ICT, and education (Raju, 2008). He again defined Information and Communication Technologies (ICT) as an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer, and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. Such technologies are used for educational purposes, namely to support and improve the pre-teaching, teaching/learning and post-teaching (evaluation/assessment) process.*

The use of ICT is of benefit to both the students and the teachers. with students who make extensive use of ICT performing better in the examination and teachers becoming more precise in their planning and gaining an additional way to estimate how competent students make use of the concepts taught in the lecture (Henning, 2005).

A strategic study carried out on behalf of the EU commission showed that while the level of integration of ICT in teaching has increased greatly, considerably variations still exist between institutions in this regard (Ramboll, 2004). By implication the increase in the level of integration of ICT in teaching is not uniform. While some universities improve on their provisions of ICT facilities and consequently, their utilization in teaching/learning in the classrooms, others have remained stagnant and this has impacted negatively on their lecturers' utilization of ICT for instructional service delivery. Chacha, (2004) while discussing emerging issues in higher education in Africa noted that lack of ICT capacity and utilisation in the running of the institutions is one of the challenges faced in African Education system.

ICT has a wider spectrum of applications with enormous relevance to universities' teaching and learning activities. ICT utilization is, the presentation and distribution of instructional content through web environment (e-teaching) or systems offering an integrated range of tools (stand-alone computer instruction, CD ROM amongst others) to support learning and communication (Yusuf, 2005).

The utilization of ICT in instructional service delivery among lecturers in Nigerian universities has been more of a departmental affair, rather than institutional, and these departments are in sciences, medical and computer sciences where the synergy between research and teaching is strongest, and the essential infrastructure for course development and



delivery were most accessible (Bassey, Akuegwu and Udida, 2009). Even at that, what was obtainable was the lowest aspects of ICT such as print, audio/video tapes and digital radios (World Bank, 2002).

Raju (2008) argues that the traditional way of teaching/learning process can be made more effective and interesting by using information and communication technologies. For example, when a teacher uses audio, video, or power point presentations in his/her lecture, the whole class becomes more attentive about the lecture. Such activities also help students to understand the things easily. In traditional learning system, students and teachers are limited to get knowledge on a particular topic through printed materials only. But use of ICT facilitates them to get variety of study materials on a particular topic using internet from anywhere and anytime. The present age is the age of technology, whereby technology plays a key role in daily lives; this also includes the education system. There are endless possibilities with the integration of ICT in the education system. The use of ICT in education not only improves classroom teaching learning process, but also provides the facility of e-learning (Raju, 2008)

### **The e-pedagogical practices within Universities**

The use of distance education, specifically online instruction, has dramatically increased over the last twenty years, due in part, to technological gains in the internet and course management systems (Wang, 2008). Because of this increase usage coupled with the academic emphasis in education leadership courses from completion to competency, there is a greater need for more evaluation of web-based courses and programs. The preparation programs are competing in a new market with students who are very comfortable with technology and expect more from online courses (Fekula, 2010)

Volery (2000) argues that online teaching and learning methods facilitate more effective education and offer significant advantages over traditional teaching methods. This can be via full blown technological implementation or limited technology based environments such as bulletin boards, virtual lectures and e-Libraries.

Web-based education is the online education with technological change, which permits new activities and makes them superior in many important ways over the previous method of operation, creates long lasting innovations in society (Franklin and Peat, 2001).

Salmon and Jones (2004) suggest that e-pedagogy seems to be playing the role of an all-rounder, from addressing inequalities to global changes. E-transformation is one of the changes that have been brought through connectivity. Connectivity is viewed as a key driver of globalization and is currently served by the Internet or extranet and the internet. He argues that the advantages of e-pedagogy from its networked environment were rapid updating, sharing of information and instruction are conveniently performed.

Where traditional universities have the ability to ensure that their students devote a portion of their quality time by requiring them to attend classroom sessions, online educational institutions do not have a direct way to ensure the quantity and quality of their online learners' time-on-task because instructional time flexibility leads the learner to regulate it themselves (Romero and Lambropoulos, 2011). This also helps on the teacher's tasks of class attendances and the rest of such.

E-learning and e-evaluation, extensions of information and communication technology, are currently found at all education levels. Due to cost, time, and flexibility for teachers and students, e-learning and e-evaluation have been adopted by many universities for under- and post-graduate student education and other e-pedagogical practices for teachers (Lorentz et al, 2008).

Trends across the world show a growing demand for information systems for educational institutions. Many of them have been running manual systems, pushing paperwork, for ages. They have had cumbersome working procedures and this has



led to low productivity occasioned by highly inept manual systems. Many of the higher educational institutions (HEIs) have implemented one form of computer-based information system (CIS) or other to manage their academic and management needs. (Kashorda, Acosta and Nyandiere, 2007). The Utilization of ICT facilities is therefore a sine qua non for qualitative instructional service delivery in universities. (Akuegwu et al, 2010)

### **Relationship between Usability of ICT facilities and e-pedagogical practices**

Some studies indicate that the use of technology has an effect on all aspects of teaching and learning. When educators integrate technology into a lesson, it requires new learning approaches, mode and techniques to the curriculum in that it develops the ability to look at and explore information in new ways (Cohen, 2001).

The internet has significantly changed the way lifestyle is delivered and facilitated in educational settings. ICT offers tremendous potential that influences education (William, 2006). This helps teachers during preparation, teaching and evaluation exercises.

Mintzer and Leipzig (2006) believe that e-teaching provides a networking system for groups of learners and instructors together in real-time electronic discussions such as through chat rooms that enable discussion, conversation and questions at anytime and anywhere. This is why ICT has been emphasised in Tanzania. The Tanzania vision 2025 document states clearly the contribution of ICT towards competitive social and economic transformation. In the vision 2025 ICTs are acknowledged as the driving force for its realization (Greenberg, 2008). The conclusion here can be therefore ICT will as well be used in all pedagogical practices.

Moses et al (2005) suggests that training and e-learning in Africa are challenged by the provision of adequate ICT skills and experience of pedagogy in e-learning. While literature about ICT potential is abundant, it is often short of practical exemplars for educators. Thus, potential users rely upon information from e-learning experts, often keen to market their products. Sound judgment requires understanding of pedagogical benefits and technical details of ICT.

In the case of developing countries like Uganda, other challenges to e-pedagogical practices include availability of funds to purchase ICT equipments, costs of software, large number of students as compared to available human resources, after sales contracts on ICT equipment, availability of power, and infrastructure for e-learning not well developed and limited choice of technology to use. The available open source software which might be seen as the best choice for software, meets a challenge of few expertises to develop e-learning platforms for students and lecturers to use (Lungu and Kaasabol, 2007).

According to Okebukola (2006), quality is judgement which determines the extent of preparation and efficiency of teachers, adequacy and accessibility of materials and facilities needed for effective teaching and learning, and how the teachers can cope with the challenges ahead of their job.

Raju (2008) commented that the use of ICT supports distance education and e-learning. Each of the different ICTs - prints, audio/video cassettes, radio and TV broadcasts, computers or the Internet may be used for this purpose. There is a minor difference between distance education and e-learning. The use of ICTs is higher in e-learning than distance learning. He found out that Using ICTs in higher institutions of learning can improve the examination process by conducting entrance and semester/ annual examination online. This will speed up examination process. It also helps in faster result declaration. The teaching community is able to reach remote areas and learners are able to access qualitative learning environment from anywhere and at anytime. It is important that teachers or trainers should be made to adopt technology in their teaching styles to provide pedagogical and educational gains to the learners (Raju, 2008).





Evaluation (testing or knowledge assessment) remains an integral part of educational process design for traditional courses as well as for e-learning courses. The main goal of evaluation is to determine whether the educational objectives have been accomplished. Due to their speed, accuracy, objectiveness and fairness, online testing and evaluation are frequently used. At the Technical University of Cluj-Napoca, Romania, Faculty of Material Science and Engineering, most information for students is available only on paper. The curriculum contains courses and practical activities, and the acquired knowledge is evaluated through exams. In accordance with the development of information and communication technology, the concepts of training, learning and evaluations changed. More and more information is now available online and the evaluation process changed from paper-based evaluation to computer-based testing. (Lorentz et al, 2008)

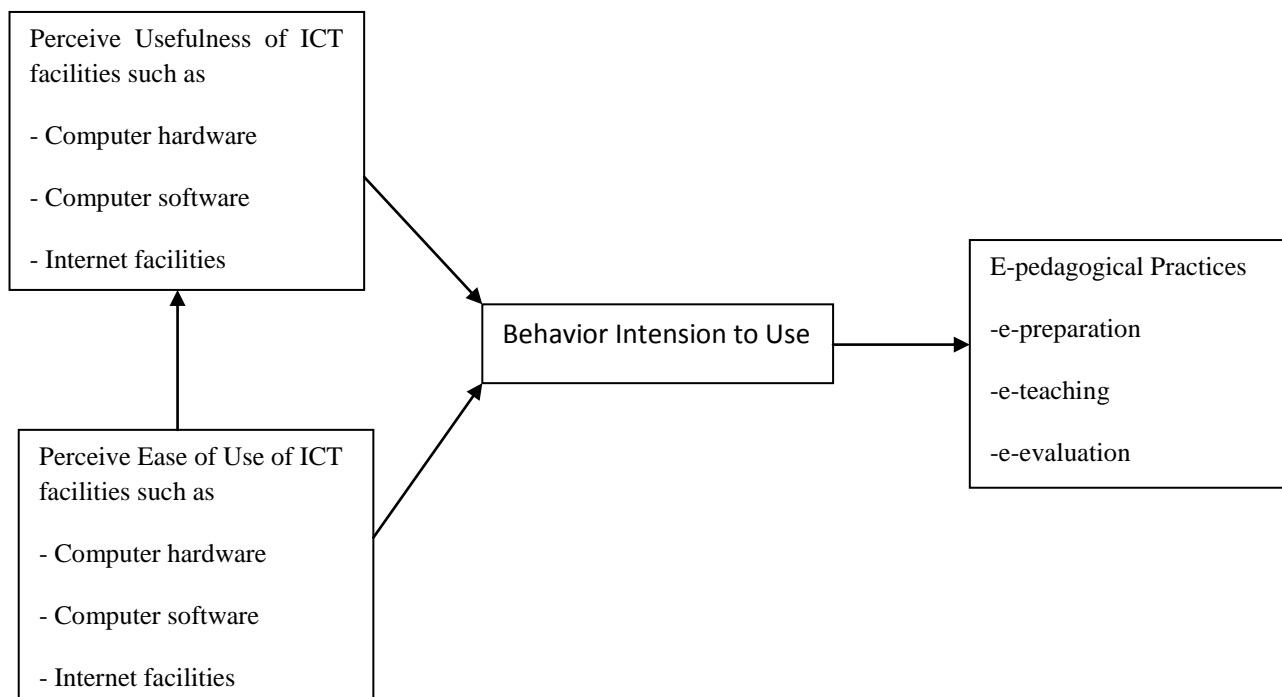
***Theoretical Perspectives***

The study will be based on Technology Acceptance Model (TAM) by Davis (1989). TAM is an adaptation of the Theory of Reasoned Action (TRA) to the field of IS. TAM states that the perceived usefulness and the perceived ease of use determine an individual's intention to use a system with intention to use serving as a mediator of actual system use. Perceived usefulness is also seen as being directly impacted by perceived ease of use.

This theory is relevant to my study because if lecturer perceive Usefulness and Ease of Use of ICT facilities such as computer hardware, computer software and Internet facilities in a positive way, e-pedagogical practices such as e-preparation, e-teaching and e-evaluation are likely to be practiced. There will be Acceptance and good attitude of lecturers towards Technology.

On the other hand, if lecturer perceive Usefulness and Ease of Use of ICT facilities such as computer hardware, computer software and Internet facilities in a negative way, e-pedagogical practices such as e-preparation, e-teaching and e-evaluation are likely not to be practiced. There will be no Acceptance hence negative attitude of lecturers towards Technology.

**Figure 2.1: Adapted TAM framework**



**Source: Adapted (2013)**



Fathul (2007) used the Technology Acceptance Model and found out that the adoption of Internet among women is affected by perceived ease of use rather than perceived usefulness. On the other hand, adoption of Internet among men is affected by perceived usefulness rather than perceived ease of use.

The TAM goals are to provide a generic base to investigate the information technology acceptance determinants, able to explain the user behavior through a wide range of computational technologies and user population and at the same time being theoretically justified. This model is useful not only to foresee, but also to describe, in a way that researchers and professionals may identify the reason for not accepting a system or technology in particular and, consequently, implement the corrective adequate steps (Davis, Bagozzi and Warshaw, 1989)

### ***Related Studies***

The related study was carried out on the Communication Technology (ICT) facilities utilization for quality instruction service delivery among universities lecturers in Nigeria by Akuegwu and Ntukidem (2010) Faculty of Education, University of Calabar- Nigeria; where the primary objective was to investigate Information and Communication Technology (ICT) facilities utilization for quality instruction service delivery among universities lecturers in Nigeria

From his study, he concluded that the availability of ICT facilities for quality instructional service delivery in Universities in Akwa Ibom and Cross River States, Nigeria is significantly low except internet-connected desktop computers and institutional cybercafes; he added that lecturers' utilization of ICT facilities is significantly low.

He quoted Yusuf, (2005) who argued that ICT utilization is the presentation and distribution of instructional content through web environment (e-teaching) or systems offering an integrated range of tools (stand-alone computer instruction, CD ROM amongst others) to support learning and communication

He again quoted the findings of the Partnership for Higher Education in Africa (2007) that the utilization of ICT facilities in teaching and learning is very low in African universities.

### **Literature Gap**

After reviewing literature, researchers have found out that Acceptance and Usage of ICT facilities has a significant relationship with Education system. Also it has been found out that the use of E-pedagogical practices can improve on the students/Lecturer performance. B. A. Akuegwu also found out that Communication Technology (ICT) facilities utilization has a significant relationship with quality instruction service delivery among universities lecturers in Nigeria. According to the above literature, no research has been done about the Usability of ICT facilities and e-pedagogical practices especially in Universities in Uganda. This is why the researcher is interested in examining the relationship between the usability of ICT facilities and e-pedagogical practices in the selected Universities in Kampala Uganda

## **3. METHODOLOGY**

*This chapter defines the tools, techniques and methodology that were used to examine the relationship between the usability of ICT facilities and e-pedagogical practices within the selected Universities in Kampala, Uganda.*

### ***Research Design***

The research design used in this research was descriptive correlational research design which systematically describes the details and characteristics of a population and helped to find relationship between the usability of ICT facilities and e-



pedagogical practices within selected Universities in Kampala Uganda. Questionnaires were appropriate for this study because it covered all the respondents within the study population.

### **Research Population**

A research population is generally a large collection of individuals or objects that is in the main focus of a research query. In this study, the research population was 338. That was 236 lecturers of Kampala International University Main Campus and 102 lecturers of Islamic University in Uganda Kiburi Campus. The target population of the research was actually lecturers. The table 3.1 shows the target population of the research area. The choice of these institutions was based on the fact that they are one of the highest ranked institutions in Uganda in terms of the quality of education, student population and ICT adoption (John, 2013).

### **Sample Size**

A sample is a subset of the whole population which is actually investigated by a researcher and whose characteristics were generalized to the whole population. In order to reach a high statistical value, the sample size has to be as large as possible but it has to depend also on factors like the available time, money, assistance and other forms of support. The sample size for this research was 229 as determined by using the mathematical formula (Solvin's formula),

$$n = \frac{N}{1 + N(e)^2}$$

Where 'N' is the population, 'n' is the sample size and 'e' is 0.05 (confidence level), sample size is calculated as shown in the table 3.1.

The study included a sample of respondents of selected Universities in Kampala Uganda.

**Table 3.1:** Sample size of the study

<b>Universities</b>	<b>Population</b>	<b>Sample</b>	<b>percentage</b>
Kampala International University Main Campus	236	148	70
Islamic University in Uganda	102	81	30
<b>Total</b>	<b>338</b>	<b>229</b>	<b>100</b>

Source: Kalemwa (2013)

### **Sampling Procedure**

The sampling method used for this study was the clusters and Simple random sampling. In clusters, the entire population was categorized into their Universities as indicated above. Finally Simple Random sampling was used when selecting respondents from the selected universities; a number of correspondents was randomly selected.

### **Research Instruments**

Any focus on any research is the gathering of information for the production of knowledge. The choice of the instrument is basically dependant on the objectives of the study. In this case data was collected using questionnaire. Multiple sources were used to validate the instrument. Questionnaires were used as the research instrument of this study. The choice of



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questionnaire was appropriate for this research because it helped to identify definite, actual and detailed questions which are prepared and the general issues about the subject of the study.

A closed ended questionnaire was used because closed ended questionnaires are easier to analyze since they are in an immediate usable form and again each item may be followed by alternative answers.

The questionnaire was divided into four sections: Section A included demographics and information related to the respondents' background in general. Section B included the information about the level of usability of ICT facilities and Section C included questions about e-pedagogical practices

The likert five scale styles was selected for this study because they are one dimensional scaling method and have been widely used in previous researches and often used for testing hypothesis and answering research questions.

### ***Validity and Reliability of the Instrument***

#### ***Validity***

Validity is the degree to which the findings correctly map the phenomenon in question. The researcher employed *face validity* by utilizing the supervisor and other experts from the School of Postgraduate and Research (SPGRS) to examine the questionnaires to ensure facial validity and the content. Their comments and suggestions were used to revise the questionnaires before making the final one.

#### ***Reliability***

This is the measure of the degree to which research instruments yield consistent results or data after repeated trials. The instrument is valid if it produces same results whenever it is repeatedly used to measure a concept from the same respondents even by another researcher.

*The test-retest technique* was used for assessing reliability of this research instrument. The research instrument (questionnaire) was administered to the same respondents after two weeks from the first set of administration. This was followed by correlating the scores from both tests to evaluate the results. The correlations coefficient was found to be 0.82 which was more than 0.6. Therefore the instrument was reliable hence adopted.

#### ***Data Gathering Procedures***

First of all, before the researcher went to the field to collect the data, the researcher started by getting the recommendation as a valid identity from the School of Post Graduate Studies and Research. This introduced the researcher as a student trying to carry out academic research, thereafter the researcher went to the field to collect data by using the research instruments chosen.

The researcher began with briefly explaining the background, objectives and nature of the study before carrying out the study (administering the research instrument to the respondents). The researcher distributed questionnaires to the respondents in time so as to give them ample time to fill it before collecting them back. The aim of this was also to enable the respondents understand the study subject.

#### ***Data Analysis***

Data analysis can be described as a process of bringing order, structure and meaning to the mass of collected data. In this research, data was analyzed quantitatively using descriptive statistics such as mean, percentage, tables and frequency and charts. The Statistical Package for Social Science (SPSS) was used during data manipulation. Also in this case, data processing was guided by the objectives of the study and conceptual frame work of the research.



The response mode, scoring and interpretation of score followed the point system where the advanced analysis was used for analysis of each research objective.

Interpretation for questions on Objective 1 was done as follows 1 - 1.7 = Not at all Usable, 1.8 – 2.5 = Slightly Usable, 2.6 – 3.3 = Moderately Usable, 3.4 – 4.1 = Very Usable and 4.2 – 4.9 = extremely Usable. These means were gotten from the mean of questions on ease of use and usefulness of ICT facilities.

Interpretation for questions on the objective 2 was scaled as follows, Never practiced = 1 – 1.7, Almost never practiced = 1.8 – 2.5, sometimes practiced = 2.6 – 3.3, Almost every time practiced = 3.4 – 4.1 and every time practiced = 4.2- 4.9

### ***Ethical Considerations***

Research respondents are always granted certain ethical rights such as the rights to privacy, voluntary participation, anonymity and confidentiality. To prevent any ethical dilemmas to emerge in this study, the researcher explained to the respondents what the study is all about and its purpose. The respondents were given freedom to ask questions concerning the study before conducted. The respondents were also assured that their names will not be misquoted anywhere in the study.

During the research, respondents were told to notify the researcher if they are not comfortable to disclose certain issues or information and not to answer any questions that will compromise them in any way. All activities were conducted with total respect and the participants' needs and interests were taken into consideration.

### ***Limitations of the Study***

It was not that all the questionnaires were retrieved nor fully filled because of the reasons which are beyond researcher's control. Therefore the researcher distributed more questionnaires than the sample size to overcome this threat and request the respondents to humbly respond to the questions; thereafter the researcher made sure that each questionnaire was collected from the respondent in time.

## **4. DATA PRESENTATION, ANALYSIS AND INTERPRETATION**

This chapter presents the presentation, analysis and Interpretation of data obtained from lecturers of Kampala International University main Campus and Islamic university in Uganda.

### **Response Rate**

**Table 4.1:** Response rate of questionnaires

Sent	Received	Discarded	Valid	Response rate (%)
260	241	6	235	90.4

Source: Field Data (2013)

A total number of 260 questionnaires were distributed to respondents, 241 questionnaires received and 235 questionnaires were valid. Out of 235 valid questionnaires, 6 questionnaires were also discarded because they were exceeding the sample size of the study. The final response rate in this study was 90.4%. The analysis was carried out with



the help of the statistical package for social sciences (SPSS) version 16.0. The analysis was done for each question as it appears in the questionnaires basing on the objectives.

### Demographic characteristics of the respondents

Respondents in this study were described according to age, gender and faculty. In each case the respondents were contacted through a close ended questionnaire to provide their prospective profile information. This was done to enable the researcher to classify compare them accordingly. Their responses were interpreted using frequencies and percentage distribution table as shown in table 4.2.

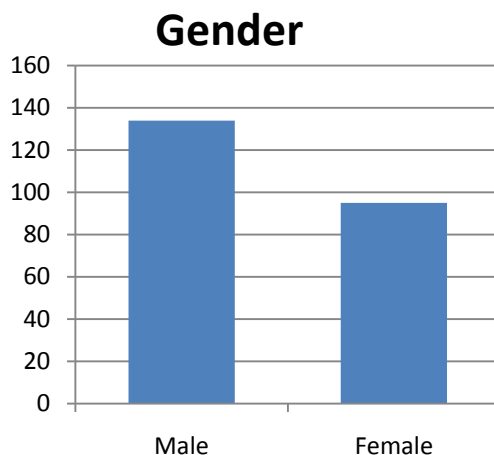
**Table 4.2:** Demographic characteristics of the Respondents  
n=229

Category	Frequency	Percentage
<b>GENDER</b>		
MALE	134	58.5
FEMALE	95	41.5
<b>Total</b>	<b>229</b>	<b>100.00</b>
<b>AGE</b>		
21-25	12	5.2
26-30	68	29.7
31-35	67	29.3
36-40	55	24.0
Above 40	27	11.8
<b>Total</b>	<b>229</b>	<b>100.00</b>
<b>FACULTY</b>		
SCIENCE	36	15.7
LAW	30	13.1
ART AND SOCIAL SCIENCES	52	22.7
MANAGEMENT STUDIES	50	21.9
ENGINEERING	36	15.7
VOCATIONAL STUDIES	11	4.8
LANGUAGES	14	6.1
<b>Total</b>	<b>229</b>	<b>100.00</b>
<b>UNIVERSITY</b>		
KIU	148	64.6
IUIU	81	35.4
<b>Total</b>	<b>229</b>	<b>100.00</b>

Source: primary data (2013)

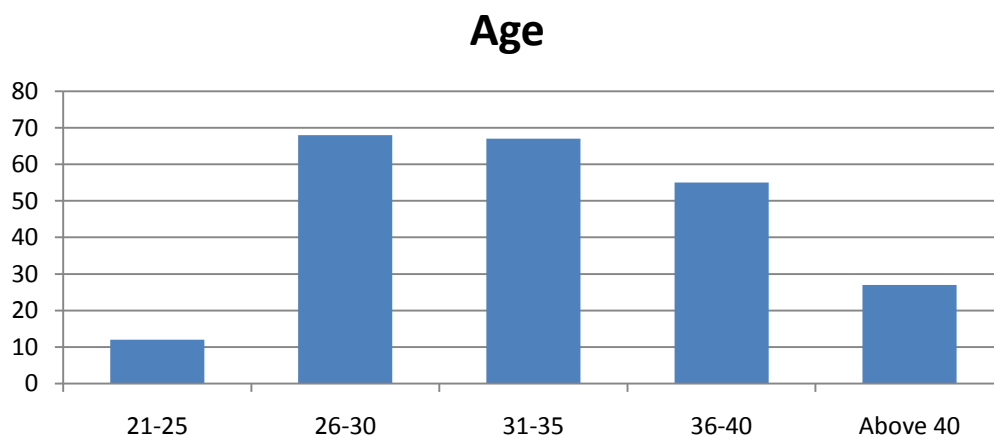


**Figure 4.1:** A column chart showing Gender of respondents



As indicated in table 4.2 and Figure 4.1, in terms of gender most respondents were males (58.5%) indicating that the area of the study was dominated by men as compared to women (41.5%). This means that there is gender imbalance. This might be because most female staff in the Institutions are administrators.

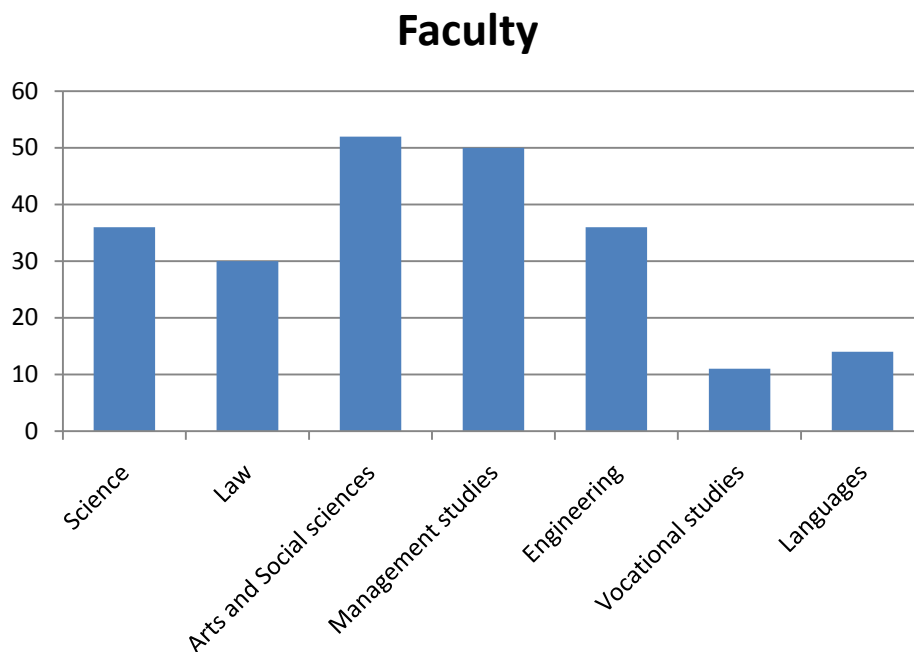
**Figure 4.2:** A column chart showing Age of respondents



The age distribution of respondents ranged between 21 and above 40 years of age. Majority of the respondents were between 26-30 years with 29.7% followed by those between 31-35 with 29.3%. Those between 36-40 were 24% then above 40 were only 11.8% and these were only lecturers from Faculty of Science. Between 21-25 were the least during the study with 5.2.0%. This indicates that most lecturers in the Institution are between 26-30 years of age and this might be due to recruitment policy of the institution where they recruit from tutorial Assistants to Professors. These might have been tutorial assistants and assistant lecturers.

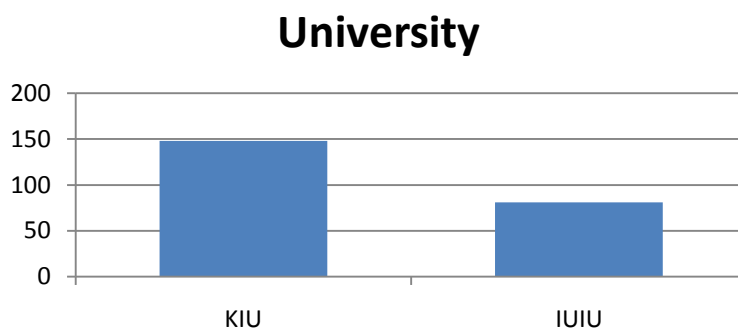


**Figure 4.3:** A column chart showing Faculties of respondents



Regarding faculties, the faculty of Art and social sciences had the majority of respondents (22.7%) followed by the faculty of management studies with 21.7%. The faculty of Engineering and the faculty of Science had the same number of respondents (15.7%). Faculty of Law had 13.1% of the respondents during the study and faculty of Language had 6.1%. Vocational studies had the least respondents during this study (4.8%). The findings indicate that there are more lecturers in the faculty of management studies than other faculties since the respondents were randomly selected from the Universities. This might be due to a bigger number of students in the faculty or due to the number of courses offered in that faculty.

**Figure 4.4:** A column chart showing Universities of respondents







According to table 4.1 and figure 4.4, the study indicates that there were more respondents from Kampala International University (KIU) with 64.6% than those from Islamic University in Uganda (IUIU) which had 35.4% of the respondents of the study. This might be because KIU has more lecturers than IUIU

**Objective 1: to determine the levels of usability of ICT facilities within the selected Universities in Kampala Uganda**

In this study the independent variable is Usability of information and communication technology facilities. This was operationalised into three parts namely, Computer software, Computer Hardware and Internet facilities. It was measured using level of ease of use and level of usefulness of ICT facilities whose their mean result made the level of Usability of ICT facilities. The dependent variable- pedagogical practices is taken as a whole and not operationalised. For independent variable all items were liked scaled using five points. Interpretation was done according to chapter three as follows 1 - 1.7 = Not at all Usable, 1.8 – 2.5 = Slightly Usable, 2.6 – 3.3 = Moderately Usable, 3.4 – 4.1 = Very Usable and 4.2 – 4.9 = extremely Usable

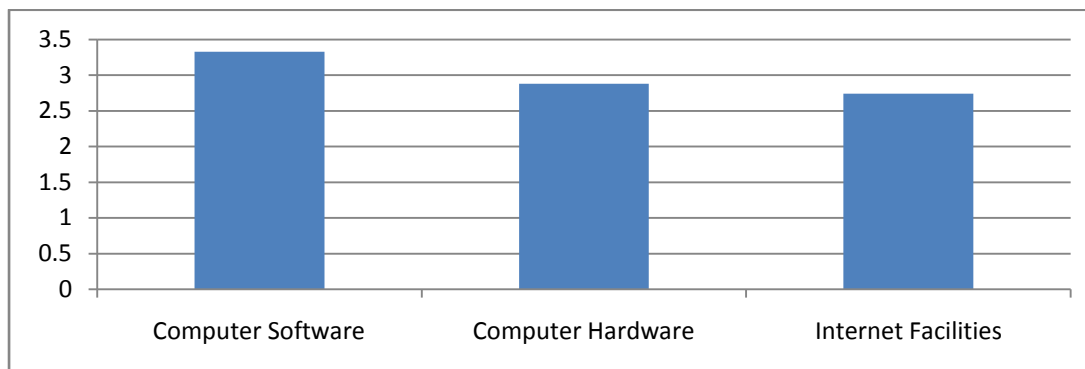
**Table 4.3:** Usability of ICT facilities within selected Universities

<b>Information and communication technology facilities</b>	<b>Mean</b>	<b>Interpretation</b>	<b>Rank</b>
<b>Computer software</b>			
Word Processing software e.g MS Word	3.49	Very Usable	3
Spreadsheet software e.g MS Excel	3.53	Very Usable	2
Database management software e.g MS Access	3.67	Very Usable	1
Graphics software e.g MS Power point	2.63	Moderately Usable	4
<b>Average mean</b>	<b>3.33</b>	<b>Moderately Usable</b>	
<b>Computer Hardware</b>			
Desktop/laptop	3.77	Very Usable	1
Projector	2.59	Slightly Usable	2
Scanner	2.29	Slightly Usable	3
<b>Average mean</b>	<b>2.88</b>	<b>moderately Usable</b>	
<b>Internet facilities</b>			
Email (sending and receiving messages)	2.84	Moderately Usable	2
World Wide Web (surfing)	3.14	Moderately Usable	1
on-line discussion groups	2.68	Moderately Usable	3
e-Journals/e-Newsletters	2.35	Slightly Usable	5
Online library catalogs	2.67	Moderately Usable	4
<b>Average mean</b>	<b>2.74</b>	<b>moderately Usable</b>	
<b>Total</b>	<b>2.98</b>	<b>Moderately Usable</b>	

Source: primary data (2013)



**Figure 4.5:** A column chart showing Levels of Usability of ICT facilities within selected Universities



Results from table 4.3 and figure 4.5 indicate that the Usability of Computer software within selected university is the highest with mean=3.33 which is Moderately Usable. Computer hardware had a mean=2.88 meaning that it is moderately usable in the institution as well as Internet facilities with mean 2.74 which also indicated that they are moderately Usable. This means that lecturers’ perceived ease of use and perceived usefulness of ICT facilities is moderate which is in the line with (Raju, 2008) that Organisations, experts and practitioners in the education sector increasingly recognizing the importance of ICT in supporting educational improvement and reform. The researcher also found that Lecturers perceive ease of use and usefulness of ICT facilities in almost the same way regardless of Computer hardware, Computer software and internet facilities within selected Universities as all of them had a mean which indicated that their usability is moderate.

**Objective 2: To identify the e-pedagogical practices within the selected Universities in Kampala Uganda**

All items on pedagogical practices were scaled using five points as follows, Never practiced = 1, Almost never practiced = 2, sometimes practiced = 3, Almost every time practiced = 4 and every time practiced =5 and the interpretation was scaled as follows, Never practiced = 1 – 1.7, Almost never practiced = 1.8 – 2.5, sometimes practiced = 2.6 – 3.3, Almost every time practiced = 3.4 – 4.1 and every time practiced = 4.2- 4.9

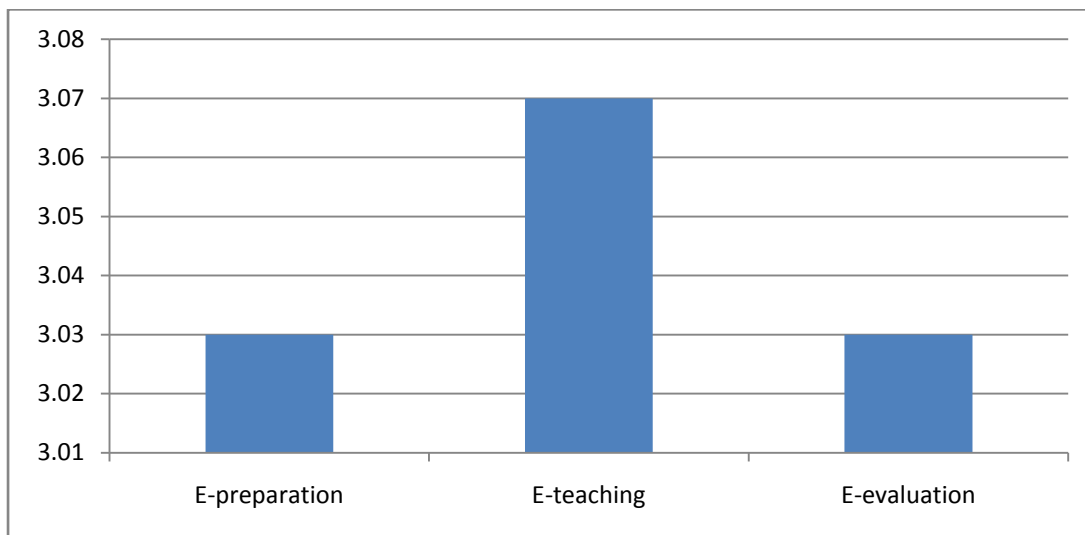
**Table 4.4:** E-pedagogical practices within selected Universities

Pedagogical practices	Mean	Interpretation	Rank
<b>E-preparation</b>			
Preparing Scheme of work	3.29	Sometimes practiced	2
Preparing lesson plan	3.30	Sometimes practiced	1
Making an updating lecture notes	2.51	Almost never practiced	3
<b>Average</b>	<b>3.03</b>	<b>Sometimes practiced</b>	
<b>E-teaching</b>			
Content delivering	3.07	Sometimes practiced	1
<b>Average</b>	<b>3.07</b>	<b>Sometimes practiced</b>	
<b>E-evaluation</b>			
Evaluation	3.01	Sometimes practiced	3
Assessment	3.00	Sometimes practiced	4
Reporting on Development	3.46	Almost every time practiced	1
Feedback to student/ Results	2.38	Almost Never practiced	5
Consultation by students	3.18	Sometimes practiced	2
<b>Average</b>	<b>3.00</b>	<b>Sometimes practiced</b>	
<b>Total</b>	<b>3.03</b>	<b>Sometimes practiced</b>	

Source: primary data (2013)



**Figure 4.6:** A column chart showing E-pedagogical practices within selected Universities



According to table 4.4 and figure 4.6, the researcher found out that ICT facilities are used mostly during teaching. This got a mean of 3.07 which indicates that e-teaching is sometimes practiced. E-preparation with mean=3.03 is also Sometimes practiced and E-evaluation is the least practiced in KIU compared to others with a mean of 3.00 = Sometimes practiced. The overall mean was 3.03 which indicate that e-pedagogical practices are sometimes practiced which might be due to the level of usability of ICT facilities in the selected Universities. Since the study indicates that ICT facilities are moderately Usable, This is the reason why e-pedagogical practices are sometimes practiced. This concurs with (Pulkkinen, 2007) who carried out a study and concluded that the growth of ICT has dramatically reshaped teaching and learning processes in higher education.

**Objective 3: To establish the relationship between the usability of ICT facilities and e-pedagogical practices within the selected Universities in Kampala Uganda.**

The third and last objective of this study was to establish the relationship between Usability of ICT facilities and e-pedagogical practices within selected Universities in Kampala Uganda for which their null hypothesis was; there is no significant relationship between the usability of ICT facilities and e-pedagogical practices within the selected Universities in Kampala Uganda. To test the null hypothesis, the researcher correlated all the means of perceptions computed in the previous tables, using the Pearson’s correlation coefficient. Results of this test were indicated in table 4.5

**Table 4.5:** Pearson’s linear correlation coefficient for Usability of ICT facilities and e-pedagogical practices within selected universities in Kampala Uganda

Variables correlated	R-value	Sig.	Interpretation	Decision
Usability of ICT facilities and e-pedagogical practices	.993	.000	Positive and significant	Rejected
E-pedagogical and Usability of ICT facilities	.917	.000	Positive and significant	Rejected

Source: primary data (2013)



Table 4.5 indicates the relationship between Usability of ICT facilities and e-pedagogical practices within selected universities in Kampala Uganda. It has been found that Usability of ICT facilities is positively correlated with e-pedagogical practices ( $r=0.993$  sig.(0.00) and E-pedagogical and Usability of ICT facilities it was found that ( $r=0.917$ ) sig=(0.00) on the overall, Usability of ICT facilities is positively and significantly correlated with the overall pedagogical practices with index ( $r=.397$ ) sig=0.000 as shown in table 4.5. Therefore, the hypothesis is rejected. These results concur with (Henning, 2005) who asserted that, the use of ICT is of benefit to both the students and the teachers. With students who make extensive use of ICT performing better in the examination and teachers becoming more precise in their planning and gaining an additional way to estimate how competent students make use of the concepts taught in the lecture.

## 5. FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

### Summary of the findings

This study intended to assess the effect of Usability of ICT facilities on e-pedagogical practices within selected universities in Kampala, Uganda. This study was guided by the following specific objectives namely (1) to determine the levels of usability of ICT facilities within the selected Universities in Kampala Uganda, (2) To identify the e-pedagogical practices within the selected Universities in Kampala Uganda and (3) to establish the relationship between the usability of ICT facilities and e-pedagogical practices within the selected Universities in Kampala Uganda.

A total of 148 respondents were chosen from KIU and 81 respondents from Islamic university in Uganda. All the 229 questionnaires were fully filled, and analyzed in this study. The analysis was carried out with the aid of the Statistical Package for Social Sciences (SPSS) version16.0. The analysis was done for each question as it appears in the questionnaires basing on objectives.

Respondents in this study were described according to age, gender, faculty and University. In each case the respondents were contacted through close ended questionnaires to provide their prospective profile information and to enable the researcher to classify and compare them accordingly. Their responses were interpreted using frequencies and percentage distribution table. Their responses are summarized below.

Male respondents were more than female respondents where 58.5% were male and 41.5% were female.

Regarding age, majority of the respondents were between 26-30 with 29.7% followed by those between 31-35 with 29.3%. Between 36-40 years they were 24%. Above 40 years there were 11.8% of respondents and between 21-25 were the least during the study with 5.2%. During the study, it was found that there was no respondent above 40 years from IUIU. The researcher therefore considered age brackets that would respond to the questionnaires on time without fail.

Regarding faculties, the faculty of Art and social sciences had majority of the respondents (22.7%) followed by the faculty of management sciences with (21.9%) of the respondents. faculty of Science and Faculty of Engineering had the same number of respondents (15.5%) and faculty of law had 13.1% of the respondents during the study. Faculty of languages with 6.1% and faculty of Vocational studies with 4.8% had the least percentage of respondents. The research had found that there were no responds from Faculty of Language and Faculty of Vocational training from IUIU.

During the study, it was found out that 64.6% of respondents were from KIU and 35.4% from IUIU.

**Objective 1:** To determine the levels of usability of ICT facilities within the selected Universities in Kampala Uganda

Results of the study also indicated that Computer software is highly usable within the selected universities in Kampala Uganda with the mean of 3.33 which is Moderately Usable. Computer hardware is also moderately usable as it had a



mean of 2.88 and Internet facilities is low as it had the least mean of 2.74 which also indicates that they are also moderately usable within the selected universities.

**Objective 2:** To identify the e-pedagogical practices within the selected Universities in Kampala Uganda.

Research also indicated that ICT facilities are used mostly for Teaching. This indicated that E-teaching is the most practiced within the selected Universities. It got a mean of 3.07 = sometimes practiced, followed by e-preparation with a mean of 3.03 which indicates sometimes practiced and e-evaluation had 3.00 = sometimes practiced. This showed that e-teaching is the most practiced followed by e-preparation then lastly e- evaluation within the selected universities in Kampala Uganda

**Objective 3:** To establish the relationship between the usability of ICT facilities and e-pedagogical practices within the selected Universities in Kampala Uganda.

The research indicated that there is a relationship between Usability of ICT facilities and e-pedagogical practices within selected universities in Kampala, Uganda. It has been found that usability of ICT facilities is positively correlated with e-pedagogical practices ( $r=0.993$  sig.(0.00) and E-pedagogical practices and usability of ICT facilities it was found that ( $r=0.917$ ) sig=(0.00) on the overall, usability of ICT facilities is positively and significantly correlated with the overall e-pedagogical practices with index ( $r=.397$ ) sig=0.000 as shown in table 4.5. Therefore, the hypothesis is rejected.

## Conclusions

The purpose of this study was to test null hypothesis; there is no significant relationship between usability of ICT facilities and E-pedagogical practices within selected universities in Kampala Uganda, to generate the new information from existing data

## Demographic characteristics of the respondents

It was found that in terms of gender most respondents were males indicating that the area of the study was dominated by men as compared to women. This means that there was gender imbalance within the selected universities and this might be because most women are administrators in the Universities.

Regarding age, majority of the respondents were between 26-30 years followed by those between 31-35, between 36-40 then above 40 and lastly between 21-25 were the least during the study.

It was found that the faculty of Art and social sciences had majority of the respondents followed by the faculty of management sciences then faculty of Science and faculty of law. Faculty of Vocational studies and languages had the least of respondents because they did not exist in IUIU.

## Usability of ICT facilities

The study indicated that computer software such as Microsoft office is most usable within the selected Universities. Considering the general mean, Computer software is most usable followed by Computer Hardware then Internet facilities are the least usable. The overall mean indicates that ICT facilities are Moderately Usable within the selected universities.

## E-pedagogical practices



Research indicated that e-teaching is the most practiced e-pedagogical practice within selected Universities. The general mean indicated that, e-teaching is the most practiced e-pedagogical practice followed by e-preparation then e-evaluation. The overall mean shows that e-pedagogical practices are sometimes practiced within the selected universities in Kampala Uganda.

### **The relationship between Usability of ICT facilities and e-pedagogical practices**

It has been found out that there is a relationship between Usability of ICT facilities and e-pedagogical practices within selected universities in Kampala Uganda. It has been found that Usability of ICT facilities is positively correlated with e-pedagogical practices ( $r=0.993$  sig.(0.00) and E-pedagogical and Usability of ICT facilities it was found that ( $r=0.917$ ) sig=(0.00) on the overall, Usability of ICT facilities is positively and significantly correlated with the overall e-pedagogical practices with index ( $r=.397$ ) sig=0.000 as shown in table 4.5. Therefore, the hypothesis is rejected.

### **Recommendations**

The selected universities should get more used to using ICT facilities in facilitating e-pedagogy so as to ease content delivery and feed back to students.

IUIU management should ensure use of Internet facilities to ease their communication to students because it ensures timely information especially using emails and Video/audio conferencing lectures.

Both universities should subscribe for more e-journals/ letters and encourage lecturers to get enough information that facilitates their pedagogical practices of delivering / teaching students.

Both universities should provide their lecturers with extra training on how to use ICT facilities to enhance e-pedagogy and even show them how useful using these ICT facilities can be in the Institution.

### **Suggested areas for further study**

There is a need for research on ICT and accounting information systems, ICT and reporting, ICT and data management. The named areas should be researched upon in order to discover the relationship between Usability of ICT in different industries such as business, Education to name the few.

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