



LECTURERS' PERCEPTIONS ON USING INFORMATION AND COMMUNICATIONS
TECHNOLOGY IN HIGHER EDUCATION INSTITUTIONS

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ABSTRACT

The world is fast growing and its advancement is not in isolation of the Information and Communications Technology (ICT). While it is inconceivable today of a modern organisation operating in isolation of ICT, three Higher Education Institutions (HEIs) in Uganda are cited as examples of the contrary. This article seeks to explore how Higher Education practitioners exploit the benefits of ICT in their practice. Using the qualitative approach through interviewing Lecturers, the study explores that despite efforts to facilitate HEIs with computer hardware and software, equipping lecturers with skills on how to use ICT, many lecturers still strongly resist using ICT. By reflecting on lecturers' values and beliefs obtained through their voices for using ICT in their performance, the study explores that it is their attitude that promotes or hinders using ICT. The study concludes that for ICT to succeed, HEIs have to assist their lecturers to change their negative attitude on ICT in their practice. Various ways to achieve this are recommended.

Keywords: Attitude, ICT, Values, Beliefs

1. INTRODUCTION

The article on the Lecturers' perceptions on using ICT in HEIs begins by grounding the study in the existing literature on ICT and its necessity in Higher Education (HE) practice. The argument is hinged on attitude as the central principle on using or avoiding ICT in their practice. Using twelve participants from three universities, the researcher administers interviews on whether they use ICT in their practice, how they use it, and their perceptions of how ICT contributes to their performance. The findings indicate little usage of ICT and largely a negative perception about using it. The study discusses the findings and provides practical recommendations. The conclusions of the study give a way forward to enabling more use of ICT in HE practice.

The global environment is becoming heavily competitive for everyone. In every sector person, as service beneficiaries, demand for effectiveness and efficiency. This implies having ably educated, trained and highly motivated service providers. The global environment, where services are provided, is fast changing not in a circular but linear and advancing motion. Therefore, service providers also need to get constantly up-to-date with the new advances. The key area where advances are apparent is the computer phenomena. One cannot conceive a life without any relation to computer software and hardware. Even in the developing world where this study is located, computer wares are found in street parking ticket dispensing machines,

cash machines, automotive machines, mobile phones most of which one can use to access and do transactions on personal bank account, pay utility bills, taxi fares, etc. The implication is that computers are ubiquitously everywhere in society and we can no longer shun of their usage anymore. Thus, computers have made globalization easier and more possible (Aggarwall, 2011). Appreciating that computers proliferate our lifestyles and human values, it is necessary that we do not perceive them as giants out to control us, but that we stay over and above them to control them (Layton, 1993).

2. LITERATURE REVIEW

2.1 Technology And Social Cohesion

Information and Communications Technology empower the social being to change their nature by using it “to generate and manipulate not only physical objects, but also symbols, cultural forms and social relations” (Friedewald and Pohoryles, 2013:1). Thus technology in its entirety enables a person to control the reality around them into what they want them to be especially in easing human operations and wellbeing. Although technology could be regarded simply as a source of information, it is also a great tool as a channel of effective communication. This dual function as a source of information and as a tool for communication has helped to re-invent education and learning in a digital world (Andersen, 2000, op. cit. Eraqi, et al., 2011).

The tenable fact is that the global world is fast “transforming from industrial age to information age” (Aggarwall, 2011: 52). The impact of ICT on economic and social development is far reaching, especially in regard to the nature of work, organisational structures and interpersonal relationships (Rumble, 1998). Technology is not only accelerating globalization and changing the nature of the work, but also transforming the way we do business and the nature of products and services we consume. There is now a shift from individuals needing to save a mental warehouse of information to an actual system where people can instantaneously access information (Aggarwall, *ibid*; Yocco, et al., 2011). What is apt is accepting and welcoming it in every nature of business, whether economic, social or academic (Tiago, 2007).

2.2 ICT and Lectureship

The continuing emphasis on the ubiquitous nature of ICT and its constant and rapid growth puts a demand on the education sector to engage stakeholders, in this context lecturer and students, in being abreast with the current wave. ICT has the ability to shape the thinking of education stakeholders (Beskerville, 2012). Because ICT puts the user in control of the process, the major challenge put on the education practise is to change from the positivist outlook where knowledge is regarded as transferred to a constructivist perspective that knowledge is constructed and shared. Lecturers need to appreciate that ICT enables them to accept their students as partners in the knowledge field where everyone can use the source to access information and transmit it. The potential of ICT in promoting the quality of education has to be accepted despite challenges of using ICT as outlined by Altun (1996). The lack of sufficient ICT resources or appropriate software with the existing hardware could be a problem. Lecturers may lack opportunities or time to attend conferences, seminars, courses or workshops to up-date their ICT knowledge and skills. Even read/teach-yourself magazines, journals and books on ICT may not be readily available. Many other pitfalls as outlined by Eraqi et al. (2011) such as reduced social and cultural interaction, suppression of communication mechanisms like body

language, lessening face-to-face peer learning, feeling of isolation, frustration and anxiety, need for self-motivation to work, could be aligned to the above.

The importance of ICT overwhelms. Utilising the human capital to the maximum is a key requirement that can no longer be relegated to the peripherals of modern management. Therefore, ICT equips lecturers with competitive and critical skills of modern human capital resources. The increasing time consciousness and minimising unnecessary wastage of resources is increasingly weighing on Higher Education to provide alternatives to the traditional face-to-face educational experience (ibid). Using ICT in lectureship opens up more opportunities, even to the students because they become more competent and familiar with the use of ICT, a competence that renders them easily employable in the labour market. Lecturers, and by default students, get ushered in a sea of knowledge which they access by ICT. Autonomous operation is necessary in academic growth, a chance that ICT provides. Lecturers and students are encouraged to work on their own, being in control of their work, choosing what to take on board or discard, and where necessary to interact with others thus fostering collaboration and creating a sense of academic community (ibid.; McCormick, 1992).

Nipper (1989, op. cit. Rumble, 1998) classifies ICT into three generations, namely; that based on printed material and written word, in other words the pure word processing generation; one-way generation of delivering material in print, audio and video to students, which is mainly through CD and DVD devices, cassettes, projectors, films, PowerPoint; and the interactive communications media which includes electronic mail, computer conferencing, which have today been modernized as Twitter, Facebook, LinkedIn, YouTube, and Blogs. This is the social media or synonymously social networking, online social networks, social technologies and social web (Lee, 2011). Social media are also changing the dynamics of collegial interactions e.g. departmental meetings which could be carried out using such network without necessarily requiring members to converge into a particular place (ibid). While the first two generations may not weigh on the user to have internet connection, the third generation requires it. Its availability simplifies levels of communication between lecturer and student as one-to-one or as a defined group. The generation makes it easy for lecturers and students to interact at an unlimited distance and from anywhere (Rumble, 1998). As noted by Aggarwall (2011), people are now commonly seen working from anywhere on their laptops, iPads, and modern mobile phones installed with interactive software. Therefore, most modern work is not easily observable as in the industrial age; "... the modern focus of supervision is on results and decreasingly on being at a given physical place such as an office for a given time period" (ibid, 65). The third generation not only provides opportunity for students and lecturers to access electronically stored information from global contributors, but also advice, administrative and support services (Rumble, 1998). And fitting in the third generation, as Kubiatio (2011) underlines does not require being a technocrat. The modern ways can be used without possessing high level computer skills. What is important is being positively disposed to new ways of performance, in other words a positive attitude.

However, adjusting to the third generation can be painstaking, especially where there is deliberate resistance. A lot of effort is required to win people over to change the way they do things. Somekh (1998) and Vergragh and Groenewegen (1989) suggest that there should be accessibility to essential technology and equipment, and also adequate and appropriate professional development. I noted already, however, that in HEI there is all the necessary technology and equipment, and readily available personnel to assist whoever is interested in embracing the modern ICT systems. Despite all these, there is passive resistance to the modern systems.

Researchers have discussed reasons that could lead to resistance to change. Change can be resisted when the force for change is external to the institution because it "creates discomfort and uncertainty on those targeted to respond to change... when the proposed change is large in

scope, or responds to outside demands, or requires a significant commitment in terms of human and financial resources” (Kortecamp and Croninger, 1996: 73). Crucial also is how change is processed. Fullan (1982, op. cit. Somekh, 1998) suggests that any change should begin with marketing the issue to the potential participants, showing its advantages and disadvantages, as well as the ease involved in adjusting to it and allowing them time to negotiate whether to get involved or not; letting the participants acquire the basics to use the resources and make an initial evaluation of the opportunities they offer; if accepted, letting them take on the change into their routine practice and thus making it permanent. Fullan’s proposed process, however, seems to be a gentle approach which may not work in situations where change is supposed to be uniformly embraced. On the other hand, it is the way that works in an academic environment where the liberal practice is obvious. Every lecturer, in this context, does the practice the way they wish. Therefore, a soft, gradual, and constant encouragement may be a better approach.

3. THEORETICAL FRAMEWORK

While acknowledging the research findings on passive resistance, I opt to focus on attitude as the main influence in the adoption or rejection of ICT in Higher Education Institutions. The person’s value system and set of beliefs constitutes the backbone that determines the type of attitude attached to a particular perception. ‘Attitude’ is a common concept used in psychology to refer to a positive or negative view of an object; for example, a person, behaviour, or event (Musgrove 1998). Musgrove says that, “attitude is nothing more than a state of mind, potentiality, or preparation for action, rather than the act itself” (Ibid. 85). Attitude can substitute for an action or lead to it; for example, if there is a person in an inhumane situation, I can feel a sympathetic (positive) attitude towards him/her, or I can carry out a sympathetic act of that person. The directionality of attitude used in this discussion is, the person’s value system and set of beliefs influencing by shaping the person’s view of computers. In turn, this view may affect the person’s action(s). The attitude that resurrects from a perception is either negative or positive.

This study should not be seen in the light of Rotter’s (1966) theory of locus of control which is about reinforcing an internal personality to breed a strongly negative attitude, and reinforcing an external personality to strongly promoting a positive attitude. Rotter’s theory is Skinnerian in nature since it is about reinforcing behaviour. This study is, however, based on natural unreinforced behaviour and perception, leading to a particular attitude. I believe that one’s attitude depends on how they perceive reality and knowledge. If the perception of reality and knowledge is impersonal, an existent other, external, then the attitude is likely to be negative. If the perception is personal, dependent, internal, the attitude is likely to be positive. This does not at all imply that there are people naturally determined to perceive things negatively and others positively. The perception applies to a particular entity or nature of knowledge. The nature of perception as well applies to computers and their usage. The way one regards a computer depends on their personal disposition.

The relationship between attitude and computers has been widely researched on by Kubiatio, et al. (2011), Potosky and Bobko (2001), Schumacher and Morahan-Martin (2001) and many others. However, this study is uniquely located in HEIs in Uganda. HEIs in Uganda, though facing economic constraints to develop various infrastructures, established and fully equipped computer laboratories, and connected all computers with internet. The departments of procurement in various HEIs availed computers in many offices for lecturers to use, in addition to the available wireless possibility to connect to the internet, installed internet ports in offices for those who cannot easily use the wireless mode. In many HEIs, projectors and their related accessories are available for whoever wishes to use modern ICT methods of lecture interaction. In addition, there are professional and technical personnel that are ready to assist everyone that

is ready to use the modern ICT. However, there is a strong lecturer “passive resistance” (Somekh, 1998: 25) to utilizing these means. Many lecturers prefer using traditional ways of approach that eliminate completely the ICT ways. I share the view that lecturer’s attitude toward technology not only influences the adoption of ICT use in their practice but also can spill over to how students feel about ICT (Shattuck, et al., 2011). The attitude towards ICT is paramount in making it work. The attitude includes clientele acceptance of ICT innovations and ability to access knowledge of how to implement ICT. This was the key prompter to this research.

4. MATERIALS AND METHOD

In order to explore the lecturers’ attitude about using ICT in their academic practice, I decided to carry out a field study. The approach was mainly qualitative in order to delve deeper into understanding the reasons for their responses. I used interview method, giving two main questions. The first was an open ended question: “Does ICT contribute to your job performance as a lecturer? Give reasons to defend your response.” Since it was an interview interaction, the question was accompanied with probes and prompts in order to seek deeper clarifications. The second was closed, just allowing them to tick their options. It run: “How do you use ICT as a lecturer? (Provide a tick where appropriate)” This question was designed according to Nipper’s (1989, op. cit. Rumble, 1998) classified generations in ICT.

To give a broader coverage of this research, I purposefully selected three universities. Makerere University, Kampala (MUK) represents government founded universities; Uganda Martyrs University, Nkozi (UMU) represents privately founded (by faith or institution) universities; and Kampala International University (KIU) represents privately founded (by individual or group) universities. The assumption was that in government founded universities, due to availability of funds, there is easy facilitation in terms of equipment and skills. Faith or institution founded universities may not be profit oriented, but the foundation bodies strive to make their universities uphold the ability and fame of the founders. The individual or group founded universities are mostly profit oriented. Therefore, being facilitated in any modern requirements to produce marketable graduates is part of their effort.

All lecturers in MUK, UMU, and KIU were potential participants, but using the privilege of qualitative which does not seek quantity but a detailed understanding of participants’ opinions, I relevantly chose to work with 12 lecturers, each university providing four participants. Therefore, participants B, C, E, and F were lecturers in MUK; participants A, D, G, and H were lecturers in UMU; and participants K, I, J, and L were lecturers in KIU. Six were males and six females, six in the age bracket of 31-45 and the other six in the bracket of 46-60; six with an experience of 1-10 years in teaching and the other six between 11-20 years of teaching.

Choosing according to gender was done on the assumption that sex can influence the set of beliefs and value system a person upholds which shape human perceptions and consequently a type of attitude one harbours. Therefore, A, B, D, F, I and K were males and C, E, G, H, J and L were females. Age as another factor was based on the assumption that physical maturation may impact on the outlooks of people as well as holding an interest in certain applications, ICT in this context. This could lead to a type of attitude held. Therefore, A, C, D, G, J and K were between 31-45 years, whereas B, E, F, H, I and L fall between 46-60 years old.

The level of experience was also an important factor chosen with the assumption that the longer people stay in a service the stronger they wish to stay with the known and used to. This means that A, B, C, G, J and K have stayed in service for years, ranging between 1-10 whereas D, E, F, H, I and L have stayed for between 11-20 years.

5. FINDINGS

The first question was, “Does ICT contribute to your job performance as a lecturer? Give reasons to defend your response.” The participants’ responses in the form of ‘Yes’ or ‘No’ and supportive reasons given to defend their response are reported in bullet form in Figure 1 (Appendix). The reasons reflect every participant’s values and beliefs on using ICT in their job performance as a lecturer. These are either objective or subjective and thus imply further the nature of attitude toward computers, as negative or positive. The second question was, “How do you use ICT as a lecturer? (Provide a tick where appropriate)” Figure 2 (Appendix) shows how each lecturer uses the forms of ICT listed. The modes of usage were characterized as printed or written material, one-way material, delivery, and interactive communications media. These data findings are in this section interpreted and discussed.

The data in Figure 2 present significant findings that all participants in this study use ICT at some degree. Every lecturer acknowledges using computers for word processing, mainly Microsoft word typically used for typing and printing. This is at least basic usage which provides further knowledge of using other computer applications. They all also acknowledged using electronic mail. In MUK, UMU and KIU, it is a requirement that every academic staff should have an email preferably based on the university web. Most of the University communications are disseminated through emails.

The data in Figure 1 show that while some lecturers happily utilise and exploit the ICT in their Higher Education practice, those who do not use ICT are overwhelmingly many. The reasons vary from lack of know-how, lack of time, being risky, captivating, to not being supported by socio-cultural behaviour, and so on.

6. DISCUSSIONS

Although many lecturers use word processing, this should be understood in the light of the fact that printing materials for students or fellow staff is unavoidable in the academia. By any means, lecturers have to have this basic knowledge. Secondly, having email accounts should not be regarded as all lecturers willingly and out of interest opened them to join the social media. However, many universities require that staff members connect to the webmail to be able to receive university and departmental messages. Probably there could even be some that prefer seeing information or announcements pinned on corridor boards, a thinking shared by Yaghi (1997, op. cit. Kubiato, et al. 2011).

In addition, the lecturers’ mode of using ICT indicates that only female lecturers confirmed using ICT for surfing and PowerPoint. Surfing enables one to access a wider knowledge base that has been contributed by many other experts. It enables the surfer develop a better approach to understanding reality and knowledge as well as helping students receive better information during the interaction. It also challenges students to seek to know better through the same means (Eraqi, et al., 2011; Rumble, 1998). The same findings also indicate that only female participants acknowledged using PowerPoint. Although a one-way material delivery, it is an effective means of interacting with students on a face-to-face basis in lecture rooms and an efficient means of saving time and other resources e.g. chalk, duster, board, etc. that would be required in traditional approaches (Eraqi, et al. *ibid.*; Aggarwall, 2011). It requires a certain level of computer knowledge in designing and using slides. It is also an easy means to include graphics in presentations in order to make the interaction more real. The interest of female lecturers (C, G, and J) who are still in their early physical age and years of academic service in surfing and using PowerPoint indicates a special urge to exploit the available resources, a thinking discussed by Seungwon (2011). Yocco (2011) noted the ubiquitous ICT as a means that has eased accessing information instantly and closing the

communicating gap at a little or no cost. This resonates with the study believe that ICT improves on lecturers' ability to widen their knowledge base, and using the available hardware and software to interact in a less traditional way. The urge to use the available resources, points to a positive attitude to ICT.

Their male counterparts (A, D, and K), who falls in the same age group, although with varying levels of experience, however are adamant about using computers to that level. For example, participant D indicated in an interview, "I have no time to learn new ICT ways which I think are mainly for chatting" and proudly added that, "There is nothing new a computer can teach me." This may sound strange, but understood from various perspectives, as explained by Altun (1996), it could be an attitude that has been shaped by demotivating and demanding bureaucratic structures, in this case a way of resenting the expectations of the existing structures by proving an I-do-it-my-way attitude. It could as well be due to socio-economic demands that restrain them from using their available time on learning new computer systems. Their age tends to coincide with early family management, which may not be so much a factor for females in the African setting. Males have to make ends meet to provide for their families. This leaves little time for involvement in other new ways, especially when there is no visible pecuniary profit.

Elderly male lecturers (B, F, and I), despite their varying period of experience and holding a negative attitude to computers, confessed having little knowledge about ICT. Participant I for example, stated that, "I feel challenged by a computer and I get nervous because I feel it knows a lot more than me. Maybe I need to learn more about them." This resonates what Wishart (1997: 281) explored in their research on ICT usage that, "older men [are] more scared of using computers". The obvious reason is that, unless one has had an earlier experience or used to computers as Kubiato et al (2011) discuss, it can be hard picking interest at a later age. The common tendency is; the known is better.

Nevertheless, elderly lecturers (D, E, F, and I) negatively perceive ICT as intrusive in human relations. They prefer retaining their control to interpersonal relationships. Participant E opines that, "in the African setting, traditional interactions with students are better because we are communitarian, not individualistic like other settings where people prefer relating to computers as fellow human beings". This is due to the thinking also explored in the study by Shattuck, et al. (2011) that computers captivate and control users to the extent of communicating through them instead of face-to-face mode. The latter mode provides rich information which is passed through body gestures and facial expression, yet that lack in computer communication.

Nevertheless, important to note is a fact that only participants C and J confirmed using the modern interactive communications media, namely; Facebook and Twitter. The study concurs with Seungwon (2011), that social media is a mode that closes distances and minimizes time as it brings together mental attention of interesting members without moving them from their physical points of operation. Participant C states that, "when I use social media I easily connect with students, colleagues and fellow alumni to discuss some academic issues". This is similar to what participant J says, "I Skype or use Facebook with fellow Alumni abroad and we discuss academic issues". Lee (2011) and Rumble (1998) refers to this form of media as the best in a fast growing globalization. It is suitable for both lecturers and students, especially those in distant locations or students who are fully employed and often fail to be physically present in lecture rooms.

It is however important to underline that although participants who supported using ICT in their university practice as important were mainly females, all female participants, despite their age range, in UMU (G and H) and KIU (J and L) took this position. This could be to the fact that private universities devote to empowering women in venturing in various tasks. This markets the universities as being more committed to gender mainstreaming, which is a current

requirement in all sectors. Since females are susceptible to work according to encouragement than the males who can remain resilient due to various factors, females can easily embrace new systems. This could as well apply to ICT. This empowerment is less likely in government, universities where monitoring service providers are more relaxed.

7. CONCLUSION

This article sets out to study the lecturers' perceptions of using ICT in HEIs in Uganda. It has focused on the nature of ICT in MUK, UMU, and KIU. These HEIs are well stocked and installed with necessary software coupled with the presence of a technical staff to assist lecturers. Despite the benefits of using ICT in the modern world, lecturers that participated in this qualitative study gave varying interests. These reflected the gap in using ICT among Higher Education practitioners. In fact very few lecturers use ICT in their academic practice. The study revealed that many lecturers do not use ICT for purposes beyond emailing and word processing. Very few indicated using ICT for more advanced purposes like surfing, power-point and social media. If ICT is meant to provide information and ease communication, an imbalance in the usage in HEIs in Uganda is apparent. The tendency leans more on communication than information seeking. Yet, as noted above, possessing a webmail is not necessarily being able to use it or being interested in using it. In the modern era whereby more knowledge is disseminated and accessed on the internet, the lecturers' failure to adjust to modern ways of using ICT may reflect the nature of knowledge they share amongst themselves and their students.

Although ICT is registered as beneficial to HE practitioners, many harboured negative attitude towards ICT. The reasons advanced by most of them have been reported in Figure 1 (Appendix) and most of them are issues of policy, especially with regard to staff development, physical presence, and procurement. The study has recommended a rethinking of these policies to be able to suit the modern practices. Many other issues of attitude are reflected in lack of interest, lack of time, regarding using ICT as risky, regarding ICT as a threat to traditional interrelationships, and so on. Since it is the person's attitude that hinders or promotes using ICT in their practice, the study has recommended some practical aspects that could help to gradually change the lecturers to positively regard ICT. The study recommended refresher courses, seminars and workshops as ways that could assist in the gradual involvement of lecturers' interest in using ICT. Stocking more modern ICT hardware and software is incumbent on HEIs. ICT is here to stay at least for decades, and every performer has to appreciate its impact on globalisation and local advancement. One cannot avoid using it if they want to claim modernity. Being modern is equated to embracing ICT.

8. RECOMMENDATIONS

Adjusting to new ways is not always an easy process. There is always a tendency to resist change. It is recommendable that to change lecturers' attitude to positively accept ICT, Fullan's (1982, op. cit. Somekh, 1998) proposed approach is apt. It is a gentle and gradual approach which assists people to accept an innovation. In the environment of mixed gender, age and experience, it is important that innovations put into consideration their various outlooks. Consequently, this gradually change their attitude. Lecturers may initially be encouraged to utilise more the basic e-communication media. When possible, expert assistance in installing and utilising ICT gadgets can be provided.

Training lecturers in how to apply modern ICT modes is very necessary. However, it cannot succeed unless they are assisted to know the benefits in terms of saving time, saving monetary resources, energy and lessening risks. Resentment to change is at times due to lack of

clear marketization of an innovation to the targeted users. This challenges the policy on staff development to include workshops on 'ICT in the academia'. Such workshops help lecturers appreciate more the benefits of using ICT in their practice. In addition to the benefits, such workshops may also include equipping lecturers with theoretical and hands-on skills in using ICT. A type of attitude is also imbued through the type of bureaucracies and managerial control systems. In order to address the negative attitude on using ICT, some of such policies have to be reformulated. This, therefore, requires administrative structures to understand the importance of ICT at the work place in order not to put demands that instead stop lecturers from effecting innovations. For example, a policy that demands lecturers to be physically present in their offices to attend to students and fellow staff, can demoralize a lecturer who feels at ease communicating with colleagues and students by email or social media.

Nonetheless, professional development may be a waste of effort unless proper equipment is stocked and fully installed with appropriate software. It is easy for HEIs to claim to have ICT hardware but which may be out-dated. It is a challenge to HEIs to regularly invest in procuring modern technology and software on top of encouraging staff to use the modern approaches. Students too should be encouraged to obtain their personal and modern computers and those who have them to be assisted to obtain relevant software. Modern iPads, iPhones, and mobiles connected to internet are common even in developing countries. Students who possess them should be assisted in how to connect to the modern ICT ways that relate to academic field and be encouraged to use them.

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APPENDICES

Figure 1: Lecturers' views on using ICT in their job performance based on the question: "Does ICT contribute to your job performance as lecturer? Give reasons to defend your response."

Participant and University	Gender		Age		Experience		Response		Reasons [values and beliefs]	Objective/ Subjective view	Nature of attitude
	Male	Female	(31-45)	(46-60)	(1-10)	(11-)	Yes	No			
A UMU	✓		✓		✓			✓	-word processing is enough for me. I am beyond the age of chatting -I mastered the content that I lecture and students simply write. What is a computer for? - I prefer students work submitted in hard copy so as to mark it from anywhere and at any time. This would be hard with a computer. - It is risky to submit by email students' exam or marks to school coordinator because students can hack in. Emails are not safe.	Objectively perceived as an entity sabotaging normal operations	Negative attitude
B MUK	✓			✓	✓			✓	-It is time consuming to use computers -ICT captivates/controls one's thinking to the extent of not doing without a computer - a computer can easily mess up my work e.g. losing it, thinking that I saved it - I have little knowledge about computer systems	Objectively perceived as an entity controlling action	Negative attitude
C MUK		✓	✓		✓			✓	- when I use social media I easily connect with students, colleagues and fellow alumni to discuss some academic issues - Surfing helps to widen my knowledge base - ICT assists me in being more creative in academic work and lecturing	Subjectively perceived as a linking tool to others and knowledge	Positive attitude
D UMU	✓		✓		✓			✓	-ICT hinders interpersonal relations because people get stuck to it instead of sharing with colleagues -ICT is not stable. Every day there is a new type on the market. How often will I keep changing? The known is better. -I have no time to learn new ICT ways which I think are mainly for chatting. There is nothing new a computer can teach me.	Objectively takes as a co-existing competitor	Negative attitude
E MUK		✓		✓	✓			✓	-my age is long past adjusting to ICT ways and I have little time -in the African setting, traditional interactions with students are better because we are communitarian not individualistic like other settings where people prefer relating to computers as fellow humans -attending to my family leaves no space for ICT -ICT can work better in sciences than humanities, e.g. in history lecture I have to explain historical facts well to students -Emails are not safe and private; they can be hacked in by students if one decided to send a set exam or marks to the coordinator	Objectively seen as intruder in social and academic interactions	Negative attitude

F MUK	√			√		√		√	-using computers for word processing is just enough. And the secretary does it for me. I have little knowledge of them and I don't want to mess up -very confusing information in it. You look up one meaning of a word, and many come up. Many words with twisted meanings -I think for myself, why using a computer? -I prefer having face-to-face interactions with students in office for them to explain their views well. Full time presence in office as the law stipulates, is good for students. -I have to access students' work in hard copy. Computer does not allow me to put marks where I need to.	Objectively taken as a confusing entity in accessing knowledge and interactions	Negative attitude
G UMU		√	√		√		√		-I enjoy using PowerPoint only that college projectors are old and let me down sometimes -I easily communicate to students by email e.g. giving assignments - I store marks on computer and when required I submit them to the coordinator - I access a lot of data on computers especially from various academic websites	Subjectively an instrument to link to others and to knowledge	Positive attitude
H UMU		√		√		√	√		-ICT helps to explore massive and useful information -it eases and fastens work completion -I easily communicate with lecturers and students by email -I find it effective and efficient to use PowerPoint	Subjectively aids to access knowledge and to give a super service	Positive attitude
I KIU	√			√		√		√	-ICT promotes academic selfishness, loneliness and individualism. I prefer working with people, holding live debates with students. Even those I supervise, they have to bring their written work to me for discussion and explanation instead of doing it on computer and I send back. -every time I sit in my office to attend to students, I feel that special attachment to my department and work environment. Computers can lock you out of this environment. -I feel challenged by a computer and I get nervous because I feel it knows a lot more than me. Maybe I need to learn more about them.	Objectively regarded as imprisoning	Negative attitude
J KIU		√	√		√		√		-I feel excited when I use a computer because I know that I am doing things in a modern way. -I Skype or use Facebook with fellow Alumni abroad and we discuss academic issues -ICT helps me to minimise resources e.g. time, money ... in instances where I would need to travel to university. I simply use email. -ICT helps me to access a lot of new information other than using the library which has old material -ICT challenges me to learn more so as to be up-to-date	Subjectively a resource saving tool	Positive attitude

K KIU	√		√		√			√	-I do not need to use a computer because I feel limited by it when teaching. I already have notes which I put on paper when researching. -I have had bad experience with the computer. While on studies the computer where I had stored my dissertation draft was attacked by a virus and I lost all my work. -I have no time to sit on computer. I am up and down doing other practical work for extra income in order to have a better future.	Objectively taken as limiting the teaching action, destructive and time wasting.	Negative attitude
L KIU		√		√		√	√		-the young have time for computers because they have not acquired many duties that occupy them. I have to keep busy with my family than spending time on computers. -I prefer physical interaction with people, e.g. fellow lecturers and students. I find it more resourceful and enriching than depending on computers. -computers enslave ones reasoning because they tend to provide answers to every issue.	Objectively seen as time wasting, limiting interpersonal interaction and free rationality	Negative attitude

Figure 2: Lecturers' responses on the modes of using ICT basing on the question: "How do you use ICT as a lecturer? (Provide a tick where appropriate)"

Participant	Printed or written material		One-way material delivery		Interactive communications media	
	Word processing	Surfing	CD/DVD	PowerPoint	E-mail	Social media (Twitter, Facebook...)
A	√				√	
B	√				√	
C	√	√		√	√	√
D	√				√	
E	√				√	
F	√				√	
G	√	√		√	√	
H	√	√		√	√	
I	√				√	
J	√	√		√	√	√
K	√				√	
L	√				√	

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