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Type of Information Communication and Technology tools used in Medical training Colleges within Kakamega County, Kenya

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Abstract
Despite modern technology and innovations in Information Communication and technology (ICT), use of it to enhance teaching and learning is facing a number of problems. The objective of the study was to determine ICT types of tools available for teaching & learning in Medical Colleges within Kakamega County, Kenya. The study site was medical training colleges within Kakamega County, Kenya. A descriptive cross-sectional design was used. Questionnaires, both open and closed, were used to collect both qualitative and quantitative data. The target population of the study consisted of 1,296 students and 46 tutors in medical training colleges in Kakamega County, Kenya. The sample size was 49 for tutors and 384 for students adopted by Yamane's method and Fisher's et al respectively. A pilot study was carried out in Bungoma medical training colleges to test validity and reliability of research instruments. Approval to collect data was sought from Institutional Research & Ethics Committee's (IREC's) chapter of Masinde Muliro University of Science and Technology and National Commission for Science Technology and Innovation (NACOSTI). Permission to collect data from the institutions was sought from respective administrations and consent from participants was also sought. Ethical issues were addressed. Data was analyzed using SPSS software ver. 20. Research findings were presented in the form tables, graphs and charts. The study findings revealed that skill rate of ICT is still low (36.7%) among tutors and students. Desktop computer (80.2%) and laptop (89.0%) remained the most commonly used ICT tool compared to others such as the projector. There was evidence of use of ICT in teaching and learning, hence showing great (65%) impact in various educational contexts. The main factors that influenced use of ICT included inadequate computers as indicated by all (100.0%) of the tutors and lack of administrative support (89.8%). The study recommends continuous investment in ICT infrastructure, capacity building of existing human resource and training of ICT and formulating intervention measures on ICT adoption and use. The study will be important source of information for managers of academic institutions, tutors and students towards full adoption of ICT in teaching and learning.

Key words: *ICT, Type of ICT tools*

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I. Background of the study

There are many definitions of Information and communication technology (ICT). However, generally it refers to technologies that provide access to information through telecommunication. These include computers, radios, internet television set cell phones and tablets. In the last two decades, Information communication technology evolutionized education and practice of medical learning. This revolution has particularly affected the learning and teaching of medical education. These changes have been witnessed in developing nations compared to the industrialized ones due to technologies of computer. The developed worlds have heavily invested in trending computer technologies. The developing nations are behind and the only option is to catch up with other parts of the world. In this regard, they need to up strategies by researching their design process necessary to be implemented in Training colleges through continuous adoption of emerging technologies (Mingaine, 2013).

ICT can be an effective tool if it used appropriately for defined tasks within a defined environmental context. There exist proven evidence on this, that is, ICT is a very effective tool in enhancing learning. However, it may not, by itself, improve the quality of learning or upgrades. Hopefully, awareness has grown and spread that the competency, expertise of the tutors is important. In sub Saharan Africa, states and governments have endeared their efforts towards the development of the teacher because it is an important policy towards implementing curricula and using ICT to enhance educational standards. However, in many of these Africa countries, the major drawback is lack ICT besides inadequate qualified teachers(NUC, 2005).Hennessy and Onguko (2010) conducted a study in schools in East Africa and conclude that, there is evidence of enhanced teaching and learning. He adds that to effectively introduce ICT technologies in schools, two areas need to be addressed; there need to be the desire to invest in ICT and funding should be availed for such investment. He

adds that availing such resources (for example software, hardware and related infrastructure) to the teacher is not enough and it is the implementation strategy to ensure that available technologies are effectively used (Hennessy and Onguko, 2010) shows that while the process has previously been painful. The entire process of adopting ICT technologies has been slow and painful (Liverpool, 2002), However, there has been significant progress in the last couple of years. Schools continue to acquire computer technologies to be used in the activities of teaching, learning and administration. Connection to the internet is also improving with students getting jubilated with the services they can get from such connection, despite inadequate equipment. Some nations have gone ahead and digitized their curriculum. Nevertheless the accessibility and use of ICT technologies requires other infrastructure to be in place such as source of power (electricity), which has proved to be sporadic. Therefore, there is need to formulate and implement a wholly packaged policy on ICT use as stated by the East African context (Hennessy and Onguko, 2010).

Teachers/Tutors can benefit by integrating ICTs in their teaching activities. They can easily prepare, modify and distribute course material to students through email or Content Management Systems (CMS) that allow one to place documents in a pre-defined area so that students can access such information. Non-teaching tasks such as calculating continuous assessments and assessing individual student's performance over time and other administrative tasks like compiling student's attendance hours in a particular school term can be easily managed by use of software applications designed to perform such tasks. Further, teachers can use multi-media such as projectors, audio-video and so on to present their lessons in different ways and have students make presentations using different multi-media (Mtega et al,2012).

ICTs can also improve administrative efficiency, e.g. financial, admissions etc. Such tasks as managing the school timetables, class lists, events, announcements, memoranda, and letters and personnel files can easily be accomplished through the use of ICTs like school information management systems, email, word-processors and spreadsheets. Financial activities like student payments, budgeting and reports can all be enhanced through the use of ICTs (Mtega et al, 2012).

A number of studies have been done on ICTs and education and specifically investigating the benefits of ICTs in teaching, learning and administration in schools (GAID, 2009; Sampath, 2007; Adomi and Kpangban, 2010). The results of the studies revealed that there was improvement in the attentiveness exhibited by the learner, students engaged more in reading and learning, the overall performance of students improved and teachers' competence when dealing with technology also improved. While Much has been done to encourage the use of ICT in education in Kenya, Medical Training Colleges within Kakamega County, Kenya, Kenya are not exceptional. These include Kakamega Medical training college, Mukumu School of Nursing and St. Mary's school of Clinical Medicine- Mumias. However, there is need to explore its use in Kakamega and Mukumu medical training colleges particularly in unclear what impact this has had on education and what benefits. This has brought to teaching, learning and school administration. Therefore, it was clear that more research needed to be conducted to understand the complex links between ICTs, teaching, learning and achievement (Amutabi and Oketch, 2004).

II. Literature Review

2.1 Introduction

The researcher presents a review of the literature which is related to the field of study. In order to ensure there is relevance to the research problem, the literature review was organized accordingly in line with the specific study objectives. This review was undertaken in such a way that it avoided duplicating the work of other scholars and to give an understanding of the existing knowledge base in the statement of the problem. This was based on authoritative, recent, and original sources like journals, books, thesis and dissertations. The literature review clearly endevoured to clarify variables and gave insights on how they have were studied before, the methodologies used, and it lead to the knowledge gap and enabled a conceptual framework that was developed. It also provided the theoretical underpinnings of the study. (Mooney and Bling, 1997).

ICT has really offered an effective impact on education. Besides offering many opportunities for improving the quality of interventions and care services provided to patients, ICT is better placed in organizing the health care system. Therefore, institutions offering medical education need to better their medical learners for the sake of the future and literacy for information skills should be mandatory in the training for all the medical students. future professionals ideally must be adequately prepared for the new crop of patients who are increasingly connected to the internet, have more knowledge about their ailments and are acquainted to latest discoveries in medicine.(Karsenti, and Charlin, 2008).

2.2 Definition of ICT's in medical Education

In relation to communication and information technologies, ICT's are defined as a diverse set of technological tools and resources used to communicate, create, disseminate, store, and manage information. These technological tools include computers, Internet, broadcasting technologies like radio, television and

telephone (Heathcote, 2000).For the most basic of the five levels of information and communication, the commonly used technological tools include print, audio/video cassettes, TV broadcasts, radio, the internet or computers can be used for demonstration and presentation. Practice and drill may be performed using the whole range of technologies except for video technologies. Internet and Networked computers on the other hand are ICTs that enable collaborative and interactive learning best. In this regard, if they are used merely for demonstration or presentation, their full potential as educational tools will remain unrealized (Heathcote, 2000).

2.3 The type of ICT tools used in teaching and learning

ICT is very important in the educational management and delivery processes ICT to a great extent provides for the absorption and acquisition of knowledge, hence it can provide greater opportunities to developing nations in order to enhance their educational systems in particular for the poor nations, and hence raising the quality of life for their citizens. The new technologies therefore help to open access to knowledge in unimaginable ways in the society and to reduce sense of isolation. In virtual environments for this purpose, ICT has played a bigger role in improving learning and teaching processes by creating vitality to schools and training institutions hence providing a better atmosphere in learning environments. The new ICTs has enabled the most complicated collaborative activities of learning and teaching by trying to divide it in terms of time and space, with continued connectivity between them. ICT in this case is a very powerful tool for offering educational facilities to undeserved constituents including the disabled as well as others who because of time and costs constraints are unable to register for university programs. This is so because of the ICTs ability to offer real-time access to remote learning resources(Baguma and Lubega, 2008).

The new digital ICT is not single technology but combination of hardware, software, multimedia, and delivery systems. Today, ICT in education encompasses a great range of rapidly evolving technologies such as desktop, notebook, and handheld computers, digital cameras, local area networking, Bluetooth, the Internet, cloud computing, the World Wide Web, streaming, and DVDs; and applications such as word processors, spreadsheets, tutorials, simulations, email, digital libraries, computer-mediated conferencing, videoconferencing, virtual environment, simulator, emulator etc. It is important to mention that use of newer ICT is being integrated with use of older technologies, enabling the existing resources and services to be continuous use.

The new age in educational methodologies today has been initiated by the diffusion, integration and provision of ICT use, hence it has changed radically the traditional methods of delivering information and the usage patterns in the domain and also to offer experience in learning contemporarily for students and teachers. This is according to Ololube, Ubogu and Ossai (2007). In the emerging new trends in learner teacher interaction and towards the constructivist approaches, it indicates that learning processes can be improved using technology which is designed to suit the presentation of the user requests, needs and preferences. This is well suited creative learning approaches because of the interactive nature of the internet World Bank, (2004).One of the biggest importance of internet to education, is its ability to share experiences and knowledge in an emerging modern world. This therefore enables students to actively seek out their colleagues in other nations so as to come out with joint research work on several study topics (World Bank, 2004).Technology integration into curriculums with the sole aim of influencing positively learning and teaching has been constantly evolving over the last 20 years (Dias & Atkinson, 2001; Dockstader, 1999).

Technology integration has really covered the continuum from instruction on interactive learning software, programming skills, instructional delivery augmentation, self-directed drill and practice, communication, online training, testing, publication, and Internet-based accessibility to information. This has been primarily driven by hardware and software evolution, popular instructional technology trends, and accessibility to computers in educational settings (Dias and Atkinson, 2001).Technology integration is supposed to cut a cross curriculums rather than being a self entity. This is according scholars Flanagan and Jacobsen (2003).ICT is supposed to an supportive tool for educational objectives like cooperation, problem solving, communication and skills for assessing and searching information which is very useful for preparing children for knowledge in the society (Drentand Meelissen, 2007/2008).To a great extent, the popular use of ICT would definitely result into more efficiency, particularly in poor countries in medical education(Mansoor, 2002).the complex world markets which are becoming increasingly competitive, puts medical schools to lots of pressure to implement computerized learning. But without proper training and support for students and staff, new technology at times can be a very expensive affair. To expand computerized learning, it needs effective quality control, staff incentives, careful strategic plan, sharing of resources, promotion of vibrant multidisciplinary working as well cultural change(Mansoor, 2002). Kenya and Africa in particular cannot escape the transformation movement as indicated by Amutabi and Oketch (2004), that a whole set of processes known as "globalization"or the rapidity and intensification of movement in ICT and has really changed dissemination, teaching and learning. The potential to this is very limitless because it is being driven forward by internet engines and modern methods of instruction, research and the many interests brought to the learners by the mere

pressing of a finger. Schools in Kenya are going to the way they are doing their businesses because Kenya itself is currently undergoing a revolution in the ICT sector. To enable and promote the education reform, the Government seeks to integrate ICT into training and education systems in its National ICT policy for Training and Education MoE (GOK, 2007).By 2015 the government had set to create an e-enabled and knowledge based society in one of its vision. Currently, the government has set up ICT structures in tertiary institutions, Secondary and primary so as to create an ICT based community. This has been integrated into teacher learning centers and all the regulatory impediments to the adoption of ICT technologies have been removed. The policy also seeks to identify the youth potential and the promotion of their empowerment as learners, contributors, future decision makers and developers.

III. Research Methodology

The researcher adopted exploratory design. The study was conducted in three Medical Training colleges within Kakamega County, Kenya , one of the 47 counties of Kenya. They included Kakamega medical training college near Kakamega County General Hospital, St. Mary's School of Clinical Medicine- Mumias next to St. Mary's Hospital Mumias and St. Elizabeth School of Nursing –Mukumu next to Mukumu Hospital along Kakamega Kisumu road in Western region of Kenya. The mentioned colleges offer diploma courses and therefore students and teachers were requested to participate in the study. The study targeted1296 respondents, out of which 1240 were students and 56 were tutors. The study included actively enrolled students and bonafide tutors of the training institutions.

Stratified sampling method was used simple random sampling technique was used to, thereby giving an equal opportunity for choice and chance. The sample size was 46 for tutors and 423 for students adopted by Yamanes method and Fisher's et al respectively size by using Fisher's and Yamane's formula. The study used questionnaires and interview schedules to collect the required data. Questionnaires were administered to students by the researcher while interview schedule were prepared for tutors and Piloting was carried out and it aided in the discovery of weak points and confirming clarity of questions. Validity of the questionnaire was done through cross checking with the experts while reliability was ascertained using Pearson co-relation co-efficient. A value of 0.5 was obtained implying that the instruments were reliable. Statistical Package for Social Sciences (SPSS version 22) was used to analyze the collected raw data by assigning number values to each responses and entering the same into a code book or coding table in the system. Data analysis was done using simple statistics like frequency tables, percentages, and results were interpreted, reported and summarized. Ethical considerations in terms of seeking permission, to undertake research and seeking respondents' consent were observed.

IV. Results and Discussions

4.1 Demographic Information of the respondents

The research study was conducted in three Medical training Colleges in Kakamega County, Kenya. The respondents comprised of the students and tutors in the aforementioned medical colleges (Table 1). The proportion of students who participated varied across the three college with Kakamega Medical training College being presented by the highest frequency 204 (53.1%) followed by St. Elizabeth Medical Training College 102 (26.6%) then St. Mary's Medical Training College, which had the least frequency 78 (20.3%). On the other hand, the representation of the tutors from Kakamega was higher 20(40.8%) compared to St. Elizabeth and St. Mary's. St. Mary's was represented by 18(36.7%) while St. Elizabeth was represented by 11(22.4%) (Table 1)

Table 1Institution that Participated in the Study

College	Frequency	Percent
St. Elizabeth	11	22.4
Kakamega medical college	20	40.8
St. Mary	18	36.7
Total	49	100.0

Researcher, 2017

The study results revealed that female students had the highest representation 222 (57.8%) followed by the male students 162 (42.2%), with majority 327 (85.2%) of the students lying in the age bracket of between 19 and 24 years. With regard to gender of tutors, the study found that female had the highest percentage 29(59.2%) with the rest being male at 20(40.8%). The age of the respondents lied within various age ranges; 20-29, 30-39 and 40-49 years. There was a high proportion 36(73.5%) of the tutors in the age category 30-39 years, followed by those in 20-29%. Most of the tutors who teach in the institutions have been there for a period ranging from 1 to more than 21 years. A higher proportion of the respondents 26(46.9%) have stayed in the institution for between 1 to 5 years. Lower proportions have stayed in the institution for more than 21 years. Tutors with Master's and Bachelor's degree courses had the highest frequency 20(40.8%) while those with higher

qualification such as PhD had the lowest frequency. The courses registered in the three colleges were four (4) and it included Nursing, clinical medicine, medical laboratory technology and pharmacy. The most popular courses were Nursing, and clinical medicine, with the large proportion of students enrolled at 145(37.8%), and 126 (32.8%) respectively. The rest of the medical courses had relatively low enrolment.

4.2 Types of ICT tools used in Teaching and Learning

For an array of ICT tools; Overhead Projector, LCD Internet, Computer Slide projector and Video/TV Cassette Recorder and Laptops, the respondents were asked to state whether the tools are used often, rarely or never. From the student perspective, overhead Projector was sometimes being utilized with the highest proportion of the students 220 (57.3%) indicating so. Those who indicated that the overhead projectors were used frequently comprised only 21.4% (Table 2). These findings were consistent with those of the tutors who indicated that overhead projector was sometimes being utilized 31 (63.3%), frequently utilized 13 (26.5%) and never utilized 5 (10.2%) (Table 2). With regard to the use of LCD, a significant majority of the tutors 40 (81.6%) indicated that the LCD is used frequently, with 5 (10.2%) indicating that it is sometimes used. On the other, hand 187 (48.7%) of the students reported that LCD was used sometimes used with 152 (39.6%) reporting that it is never used. As for the LCD, the laptop use had similar responses from the students and tutors, with a majority 45(91.8%) of the tutors finding its use frequently and a higher percentage 199 (51.8%) indicating the same (Table 2).On the use of the computer or desktop, the students indicated that it was sometimes utilized with the highest proportion 233 (60.7%) of the students saying so. Those that reported that computers or desktop were never being used comprised 76 (19.8%) (Table2).

Table 2ICT tools type Used in Learning and Teaching according to Students

Objective	Category	Frequency	Percent%
Slide projector	Frequently	93	24.2
	Sometimes	211	54.9
	Never	80	20.8
Web environment	Frequently	126	32.8
	Sometimes	178	46.4
	Never	80	20.8
Video/TV	Frequently	139	36.2
	Sometimes	143	37.2
	Never	102	26.6
Cassette Recorder	Frequently	25	6.5
	Sometimes	83	21.6
	Never	276	71.9
Laptops	Frequently	199	51.8
	Sometimes	143	37.2
	Never	42	10.9
	Total	**384**	**100.0**

These findings were somewhat similar to those reported by the tutors who indicated that sometimes the computer is used or frequently used. The proportion of the tutors and students who indicated that the computer was sometimes or frequently used comprised 28(57.1%) and 17(34.7%) respectively. The other tool that is commonly used in ICT is the slide projector. Similar results were reported by the students as well as the tutors. According to the student, the slide projector was sometimes being used as indicated by the highest frequency 211 (54.9%) of students who said so. The tutors who responded that the slide projector is sometime being used comprised 24 (49.0%). The proportion of the students who indicated that the tool was frequently used was 93 (24.2%), while the tutors who indicated the same were 12 (24.5%). There was a higher proportion 12 (24.5%) of tutors who indicated that the tool is never used compared to the students 13 (26.5%).

Another important ICT tool that was used was Video or Television. There was a contradictory reporting on the part of the respondents that is the students and the tutors. The study findings indicated that while a higher proportion 143 (37.2%) of the teachers indicated that the video /TV is sometimes used, a higher proportion 139 (36.2%) of students indicated that the ICT tool is frequently used (Table 2). However, there was

a difference of about 16% between the tutors and students on responses pertaining to the tool never being used. The study findings indicated that the cassette recorder is rarely used since a higher proportion 276 (71.9%) of the students and equally a higher percentage of the tutors 36 (73.5%) were affirmative on it nonuse. On the other hand a small proportion 9 (18.4%) and 83(21.6%) of the same categories of respondents indicated that the cassette is frequently used.

The study also attempted to explore internet access or connection to the respondents. The study results indicated that majority 308(80.2%) while 17(34.7%) of the tutors are able to access the internet. Consequently, the students and tutors who are not able to access the internet comprised of 76 (19.8%) and 28 (57.1%) respectively. There is indication that the students are accessing the internet more than their lectures (tutors) because they are within the school so that they are able to access their wifi connectivity. From the findings on the types of tools used in the medical institutions, three facts have emerged; first, some of the ICT tools are used frequently while other are rarely or never used at all. For instance while use of the ICT tools such as LCD, computers and Slide projectors are used, some like cassette recorder are rarely used. Secondly, some of the ICT tools are used by students while others are used by tutors to perform individual work and, with some being of common use to the both the students and tutors. For instance, the internet is used by both groups of respondents to do individual research and accessing inline resources. Third, while all the ICT tools are used for teaching and learning some may not be used in the teaching rather they are used for self-learning, e.g. the television. Laptop and the desktop are basic ICT devices that ought to be in plenty because they find a number of uses both individually and collectively. Their uses include but not limited educational purposes such as activities directed towards lesson preparation, execution or evaluation and all schools need to have them (Isaacs et al, 2003).

4.3 Expertise of the tutors in Computer Software

The study explored the expertise of the respondents on the use of some of the general computer software such Windows, Word processing, spreadsheet and so on. Generally, the study findings revealed that mostly both the tutors and the students are good as far as expertise in the computer programs is concerned. However, there are other programs that both the categories of respondents are not fairing on well notably in spreadsheets, databases, presentation software and internet/email. The study results revealed that the tutors fared on better in most of the application packages compared to the students. For instance, 75.5% of the tutors were fairing on good as compared to 73.4% of the students in spreadsheets. Similar results were realized in other software in which the tutors fared on well in databases, presentation software and internet/email as compared to the students (Figure 1).In terms of the distribution as to the expertise is concerned, the study findings indicated that 25(51.0%) of the tutors were good in Microsoft word, 24(49.0%) were rated Very Good. In spreadsheet, 27(55.5%) of the tutors were good with 10(20.4%) of them being rated high. File management such as saving, copying and backups is an important skill as far as windows is concerned. The study findings indicated that the tutors were fairing in well on this area of saving, copying and backups (65.3%) being good and 13(26.5%) being very good. Notably, a higher proportion of the tutors were doing very well on Internet /email 39(79.6%).

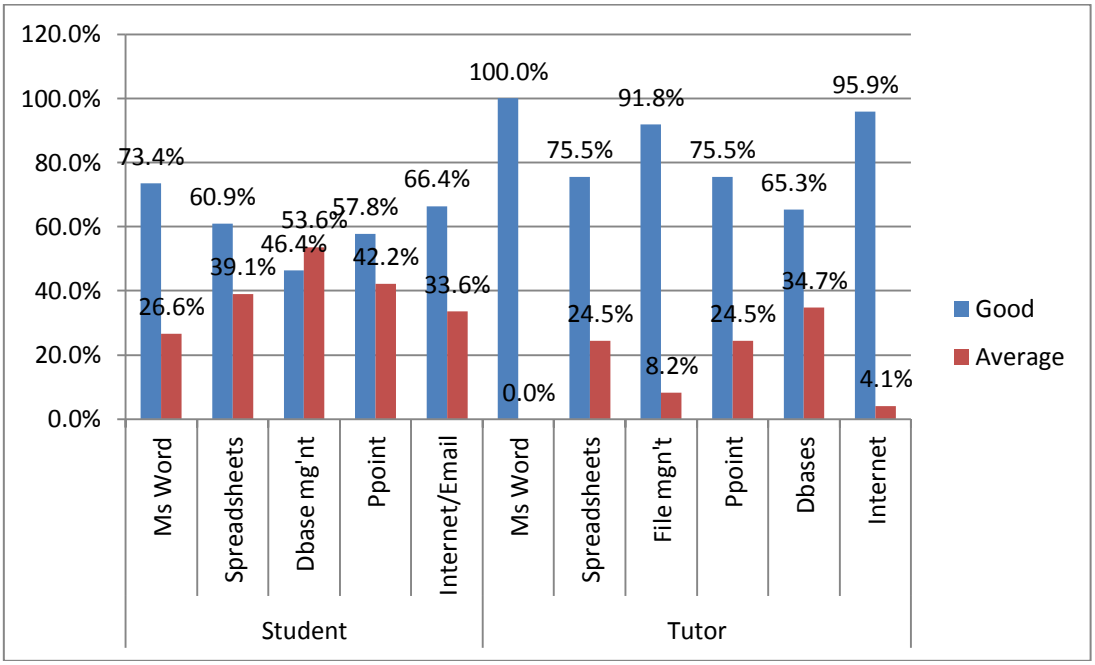

Figure 1 Expertise of General Computer Programs/Softwares

On the part of the students, the distributions are as follows; 172 (44.8%) of the students fare good and 110 (28.6%) were rated very good in using Microsoft word. With regard to spreadsheets 164 (42.7%) and 70 (18.2%) were rated good and very good respectively. A relatively higher proportion of the students were not doing very well in spreadsheets, since 114 (29.7%) were average and 36 (9.4%) were rated weak. .Software where the students were fairing on poorly is database system with 41.7% of the students rated only as average.

V. Discussion of the Findings

As discussed in literature, generally there are many changes which Information and communication technology (ICT) has brought. In particular, the medical education and practice has benefited a lot in the recent past because with computer, tutors as well as students will be able to make get online resources which are exclusively educative. ICT is opening a gate way to appropriate teaching and learning, and it is an easy way of providing feedback, allowed access to online resources, introduced e-learning and allowed monitoring of students performance. Networked computers and the Internet enable interactive and collaborative learning best; their full potential as educational tools will remain unrealized if they are used merely for presentation or demonstration (Heathcote, 2000). There was a variety of ICT tools used in the teaching and learning at the medical colleges; Overhead Projector, LCD, Internet, Computer Slide projector and Video/TV Cassette Recorder and Laptops, the respondents were asked to state whether the tools are used often, rarely or never. From the student perspective, overhead Projector was sometimes being utilized with the highest proportion of the students 220 (57.3%) indicating so.

Table 3Details of rating of respondent's Expertise on Computer Programs

Category	Program/Software	Very		Good		Average		Weak	
Students	Word processing	110	28.6%	172	44.8%	74	19.3%	28	7.3%
	Spreadsheets	70	18.2%	164	42.7%	114	29.7%	36	9.4%
	Database management	55	14.3%	123	32.0%	160	41.7%	46	12.0%
	Power point	78	20.3%	144	37.5%	121	31.5%	41	10.7%
	Internet &Email use	159	41.4%	96	25.0%	95	24.7%	34	8.9%
Tutors	Ms Word	24	49.0%	25	51.0%	0	0.0%	0	0.0%
	Spreadsheets	10	20.4%	27	55.1%	12	24.5%	0	0.0%
	File management	13	26.5%	32	65.3%	4	8.2%	0	0.0%
	Power point	12	24.5%	25	51.0%	12	24.5%	0	0.0%
	Databases	9	18.4%	23	46.9%	17	34.7%	0	0.0%
	Internet	39	79.6%	8	16.3%	2	4.1%	0	0.0%

Those who indicated that the overhead projectors were used frequently comprised only 21.4%. With regard to the use of LCD, a significant majority of the tutors 40 (81.6%) indicated that the LCD is used frequently, with 5 (10.2%) indicating that it is sometimes used. On the other, hand 187 (48.7%) of the students reported that LCD was used sometimes used with 152 (39.6%) reporting that it is never used. As for the LCD, the laptop use had similar responses from the students and tutors, with a majority 45(91.8%) of the tutors finding its use frequently and a higher percentage 199 (51.8%) indicating the same.

The results were indicative of the fact that the Availability of a particular ICT device or tool will be used depending on its availability and demand. Today, ICT in education encompasses a great range of rapidly evolving technologies such as desktop, notebook, and handheld computers, digital cameras, local area networking, Bluetooth, the Internet, cloud computing, the World Wide Web, streaming, and DVDs; and applications such as word processors, spreadsheets, tutorials, simulations, email, digital libraries, computer-mediated conferencing, videoconferencing, virtual environment, simulator, emulator etc. Evidently the tutors were using laptops in most cases as it was obviously used almost daily to prepare lessons plans and other teaching and learning materials. Indeed the laptop was the most popular ICT device among the tutors compared to students. Because of its portability nature is can easily be move from office to office, to class then home. Well charged laptops with long battery hours can be used to teach effectively even where the tutor do not have, hard copies of the notes. Therefore, laptop is one of the basic ICT device that every institutions of learning ought to have in plenty. Other devices which can be used hand in hand with the laptop/desktop is the slide projector. In modern classrooms in developed nations, projectors are mounted in classrooms, and are one of the requirements

in the so called "tech" classrooms. Advanced "tech" have smart boards that can be operated without a laptop. Such devices are able to present diagrams or animations that reinforce concepts learned in class. It is important to note that, the slide projector is basically used for a given number of learners or classroom. Therefore one projector per class or department may sometimes suffice.

On the use of the computer or desktop, the students indicated that it was sometimes utilized with the highest proportion 233 (60.7%) of the students saying so. Those that reported that computers or desktop were never being used comprised 76 (19.8%). These findings were somewhat similar to those reported by the tutors who indicated that sometimes the computer is used or frequently used. The proportion of the tutors who indicated that the computer was sometimes or frequently used comprised 28(57.1%) and 17(34.7%) respectively (Table 5).The other tool that was commonly used in ICT is the slide projector. Similar results were reported by the students as well as the tutors. According to the student, the slide projector was sometimes being used as indicated by the highest frequency 211 (54.9%) of students who said so. The tutors who responded that the slide projector is sometime being used comprised 24 (49.0%). The proportion of the students who indicated that the tool was frequently used was 93 (24.2%), while the tutors who indicated the same were 12 (24.5%). There was a higher proportion 12 (24.5%)of tutors who indicated that the tool is never used compared to the students 13 (26.5%). See table 4 and 5.

Another important ICT tool that was used was Video or Television. There was a contradictory reporting on the part of the respondents that is the students and the tutors. The study findings indicated that while a higher proportion 143 (37.2%) of the teachers indicated that the video /TV is sometimes used, a higher proportion 139 (36.2%) of students indicated that the ICT tool is frequently used (Table 4). However, there was a difference of about 16% between the tutors and students on responses pertaining to the tool never being used (Table 4 and 5).The study findings indicated that the cassette recorder is rarely used since a higher proportion 276 (71.9%) of the students and equally a higher percentage of the tutors 36 (73.5%) were affirmative on its non-use. On the other hand a small proportion 9 (18.4%) and 83(21.6%) of the same categories of respondents indicated that the cassette is frequently used. There are other ICT devices that need to be used or availed in learning institutions, although they are rarely used. The video and television are not commonly used, but they are vital in learning.

While all the ICT tools are used for teaching and learning some may not be used in the teaching rather they are used for self-learning, e.g. the television. Laptop and the desktop computers are basic ICT devices that ought to be in plenty because they find a number of uses both individually and collectively.

VI. Conclusions

There is evidence that ICT is an important learning tool and Investing in it is a mandatory undertaking for all any learning institution. The Use of ICT in the learning institutions is somehow average. However, There is still relatively a high proportion of the students and tutors who have not embraced use of ICT. It is quite encouraging to see find that a high percentage of tutors understand the situation or scenarios in which ICT can be used for effective learning. There is still much ground to be covered as far as ICT use is concerned in our academic institutions, and in particular medical colleges.

VII. Recommendations

Based on the study findings, the study recommendations that college management need to invest heavily on ICT infrastructure. This investment should be a continuous process, and any time acquisition of new ICT equipment is made, care should be taken to leverage on existing old technologies, otherwise they will become relevant. The management of such institutions should privy of technologies required in the institutions and the departments. In addition,

Capacity building of existing human resource in terms of training of ICT should be done for students and tutors to fully, embrace use of ICT technology. Moreover, there is need to create awareness among student and tutors for effective use of ICT for effective medical instruction.

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