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Use of Media and Information and Communication Technology (ICT) in University Instruction

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Abstract: Whether newly established, mode of instruction in universities, the use of information and communication Technology (ICT) and Media has taken place of lecturer student close interaction, in educational institutions such as universities and colleges. The need by universities to change their mode and design of learning process in future through media and ICT, results from its inevitability to changing and innovating experiences of technologies. Change varies in degree and therefore, the usage of media tools an ICT in educational purposes in any institution become reactive and anticipatory experience. This has led to educational innovation and implementation of new instructional techniques. Through proper planning, innovation such as teaching by media and any technological aid success can be achieved thus offering incentives in improved learning through several approaches by students like online learning. Though this posses major challenges in implementing, all university institutions should anticipate these new technological developments and prepare prospective lecturers for this role of new instruction. The paper seeks to evaluate how technology is enhancing education and how preparedness learners and lecturers are in embracing media and technology in any form of learning process.
Keywords: Media, ICT, University, Instruction, Learners.

INTRODUCTION

The decision by many students not to attend classes or enroll in online or distance mode of learning is driven by lifestyle demands encompassing intensive and often irregular work, family and social commitments[8]. As a result of these changes, instructional methods in universities have changed from face to face to a wide range of technologies (including video conferencing, web conferencing and virtual worlds).

To date, students have tended to be supported in their learning through asynchronous activities and resources such as recorded lectures, electronic documents and online discussions forums provided by electronic aided virtual technologies.

Change is an alteration of an organization's environment, structure and technology or people[9]. It is an institutional reality which is part of every individual's role. Change has also traversed many organizations and educational institutions particular in their instructional mode.

Modern Universities have adopted media and ICT as its usage in teaching. This can be viewed as a transformation in design and a function of an institution[1] that is aimed at improving students' performances to stay competitive change is mainstream of education and training systems.

Media and Information and Communication Technology usage has become one of the challenges among the challenges facing higher education in twenty first century and this challenge is vast.

ICT has changed learning designs from lecturer interaction to using rich-media real time communication tools such as video conferencing (both desktop e.g. skype), web conferencing (e.g. Adobe connect) and 3D virtual worlds which have become increasingly popular[2].

The growing demand for this mode of instruction increased number of students that a virtual lecturer can handle, has made ICT to implement distance learning through online studying and increased an alternative mode in course and material delivery. These all contributes to the following questions:

Do graduates possess the skills that Job market desires? Are students receiving quality education? Are students prepared for employment after graduation? As the university embraces this new mode of lecturing, they should attempt to ensure positive answers are met to these questions through a variety of avenue including formal accreditation of qualified technological knowledgeable instructors at the institution level and programmes level in importing has made.

The information and communication technology revolution has swept through the world.

Information communication technologies has introduced new methods of teaching and conducting research and have been brought into education facilities for online learning, teaching and research collaboration. ICT has introduced new modes of organizing learning environment in universities and new concepts in teaching process as well as remodeling participants in educational process.

RADIO AND TELEVISION AS MEDIA TOOLS OF INSTRUCTION

Radio and television have been widely used as educational tools since 1920s and the 1950s respectively. There are general approaches to the use of radio and TV broadcasting in education

- Direct class teaching, this entails broadcast programming which substitutes teachers on a temporary basis.
- School broadcasting, where broadcast programming provides complementary teaching and learning resources
- General educational programming over community, national and international stations which provides general aid informal educational programmes.
- Radio and TV provides direct teaching and learning exercises to the classroom on a daily basis
- These lessons are developed around specific learning objectives at particular levels of programmes and are intended to improve the quality of classroom teaching and act as a regular, structures aid to poorly trained lectures in under-resourced universalities.

Instruction through these media tools has made learning more advantageous since it can cater for high population of students in both direct class teaching and college broadcasting. In this mode, institutions accompany or must accompany broadcasts with printed material and audio – cassettes.

Example of a case:

"Japan's University of the Air was broadcasting 160 television and 160 radio courses in 200. Each course consists of 15 – 45 minutes lectures broadcast nationwide once a week for 15 weeks courses are aimed over University – owned stations from 6 am to 12 noon. Students are also given supplemental print materials, face to face instruction and online tutorials[3].

Centrally, Universities can use media tools in imparting knowledge to students via produced programs which may or are beamed via satellite throughout the universities on a scheduled basis. These transmissions may be accompanied or deployed with printed materials, cassettes and CD-ROMs. Media broadcasting is intended to enrich the traditional mode of instruction i.e. lecturer – student face to face interaction.

Another mode of media usage as an instructional mode of teaching is teleconferencing.

In this case, we may generally take teleconferencing an a mode of interactive which is electronic and communication is the sole purpose therefore two or more people are located in different places depending on the nature and extent of interactivity and the technology, there are four types of teleconferencing which maybe used in imparting educational materials. They are:

- Audio-conferencing
- Audio graphic conferencing
- Video conferencing
- Web-based conferencing

Teleconferencing is used for both formal and informal learning contexts to facilitate teacher learner and learner teacher discussions as well as access experts and other learning resources and resource person remotely. Universities can adopt this mode particularly in those institutions which offer open and distance learning. This mode of media is useful since it provides direct instruction and learner support minimizing learner isolation.

Merits:

- They are flexible
- Reach in masses
- Suitable everywhere
- Interaction is spontaneous

Demerits:

- Expensive
- Lack of signals may hamper teaching
- Difficult for slow learners or Weak students.

ICT AS A MODE OF INSTRUCTION

Understanding the use of ICT at the level of pedagogical engagement will provide us valuable insights into the relationship with teaching and learning.

Pedagogy is about three agents (lecturer, students and knowledge domain) interacting.

These three agents comprise three elements in a triangle of interaction[4]. Teaching and learning interactions and activities are likely to be linked with specific forms of technology and media.

The preliminary meaning of ICT is Information communication and technology. But ICT is a Generic term referring to technologies which are being used for collecting, storing, editing and passing on information in various forms [5] a personal computer is best known examples of the use of ICT in education.

Generally, the use of ICT in education can be described into three summaries[6].

1. ICT as object: It refers to learning about ICT – Mostly organized in a specific subject / course Education prepares students for the use of ICT in education, future occupation and social life.
2. ICT as an assisting tool'. ICT is used as a tool for example while making assignments collecting data and documentation, communicating and conducting research.
3. ICT as a tool for organization and management in Universities.
4. ICT as a tool for organization and management in Universities.
5. ICT as a mode of instruction gives dominance to students to use computers. These causes computer and internet to be used for teaching and leaning.

There are several approaches which ICT enabled learning and teaching use in Universities. They are:-

1. Learning about computers and the internet in which technological literacy and knowledge is the end – goal. In this case, learners get to know what a computer comprises of.
2. Learning with computers and the internet, here technology facilitates learning across the course curriculum and course units.
3. Learning through computers and internet whereby there is integration of technological skills development with course applications.

ICT promotes learner – centered pedagogy through computers. Through this mode, web – based classes and distance education classes are engaged. ICT provides for Satellite broadcasting, Video conferencing, video – on demand, internets and internet based study which provides students with materials and study modules in their respective courses.

Many Universities offering distance courses have started to balance and leverage the internet to improve their programmes's reach and quality. Examples of these universities includes, Philippines Open University, The virtual University of the Monterney Institute of Technology in Mexico, African Virtual University, Indira Gandhi Open University and University of South Africa.

ICT enables the course to be delivered in a mix of broadcast and video while some courses are totally delivered online.

Universities should determine the objectives of ICT in education and knowledge delivery so as to obtain maximum educational goals. It is the best and of great mode of instruction if exercised with care. In this process of determination, great variety and choices in educational angle will be subsequently achieved.

On the other hand universities can use ICT as an adequate means to realize their research goals. The attention on ICT over education as quickened and sharpened the discussion about educational development and future education.

To realize the importance of ICT as a mode of instruction in University levels lecturers and instructors should equip themselves with ICT skills. This will overshadow the key problems that the University may face in implementing ICT educational – mode of instruction.

Moreover ICT develops rather rapidly and hence or thus ICT opportunities may not be exhaustibly used in educational purposes. Lecturers should be equipped with competences that prepare them for constant changes in ICT mode of teaching. With this regard, a lecturer could pose an answer to the question on how he / she explore the opportunities of using ICT as an instruction mode and subsequently use it in teaching.

Also to counter inefficiencies of ICT mode of instruction in University level, lecturers should be aware and get a breast of rapidly changing learning environment on the ICT skills they acquire in their own training. This will reflect their current state of affairs therefore they need life-time or life long learning.

The spread of information technology is already influencing education in school in a number of different ways. The knowledge economy demands of computer literate work force and it's increasingly clear that education can and must play a critical role in meeting this need.

While household ownership of computer has risen sharply in many recent years, many children don't have access to a computer at home. For this reason access, schools and universities are crucial forum for young people to learn about and become comfortable with the capabilities of computers and online technology.

In the eyes of many, ICT is set to charge the higher education in the 21st century. With the growing use of computers and multi media technologies in education, Higher education in our country will have to prepare for enormous challenges.

CHALLENGES

ICT possess the same challenges. These challenges needs radical and purportedly, urgent solutions. They are namely:

1. Will the digital media increasingly replace the school book?
2. Will schools still exist in anything like the form in which they do today if children turn on their computers in order to learn, rather than listening to a teacher?
3. Lastly will technologies undermine the existing curriculum?

We need to deliberately debate on the above challenges before we move forward.

Certainly, ICT will favor young students in higher education because, they are already growing up in information and media related society and are much more familiar with its technologies than most adults including their teachers.

Recently, the use of technology in education has been utterly transformed in Kenya. Though their has been grassroots awareness on the importance of technology to our country by various NGO's and government Agencies, people are still reluctant to adopting this new technology.

According to Anthony Giddens [7]. He observes that, ICT in higher education will lead to what he calls as 'classroom revolution' the arrival of 'desk top virtual reality' and the classrooms without walls.

ICT and research in higher education

ICT has developed a capacity of strengthening research in higher education among students and research institutes. Researchers have developed utilized and sustained ICT networks, services and shared resources for research roles and research developments.

There is little question that computers have expanded opportunities in educational research. ICT through computers provide the chance for students to work independently to research topics with the help of online resources and to benefit from educational software of research that allows students and research scholars to work at their own pace.

Students can use computer to complete tasks within the standard curriculum such as producing research project.

Research and student learning in higher education fosters in innovation and can therefore provide a valuable development in skills of research that informs the capabilities of the student.

On this critical role of ICT research, in higher education, few education see information technology as a medium that can substitute for learning and from interacting with human teachers. Benefits were found for using ICT in higher education

General ICT benefits

- Enabled greater learner autonomy
- Unlocked hidden potential for those with communication difficulties
- Enabled students to demonstrate achievement in ways which might have not been possible with traditional methods.
- Enabled tasks to be tailored to suit individual skills and abilities

For students

- Computers can improve independent access for students to education
- Students with special educational needs are able to accomplish tasks working at their own pace
- Visually impaired students using the internet can access information alongside their sighted peers
- Students with profound and multiple learning difficulties can communicate more easily
- Students using voice communication aids gain confidence and social credibility at school and in their communities
- Increased ICT confidence amongst students motivates them to use the internet at home for schoolwork and leisure interests

For teachers, non teaching staff

- Reduces isolation for teachers working in special educational needs by enabling them to communicate with colleagues
- Supports reflection on professional practice via online communication
- Improved skills for staff and a greater understanding of access technology used by students
- Enhances professional development and the effectiveness of the use of ICTs with students through collaboration with peers
- Materials already in electronic form (for example, from the internet) are more easily adapted into accessible resources such as large print or Braille.

CONCLUSIONS

We can conclude that ICT and media are indeed being used as part of teaching and learning events in higher education. The growth of technology use in post-secondary learning suggests additional

challenges as higher learning institutions grapples with issues of plagiarism of online content. There is also a challenge whether ICT may provide dialogue, engagement and communication as conventional teaching and learning is exercised in educational context. Technology is a strategic resource for HEIs (Higher Education Institutions) and should be prioritized and made part of institutional resources. Finally the integration of any ICT and any form of media in learning, research and delivery is inevitable as it will cater for increasing demand for higher education, need for online learning and lifelong learning.

REFERENCES

1. Peters, Rue, Byars; Change And ICT In Modern World. 2000.
2. Bower M, Kennedy GE, Dalgarno B, Lee MJW, Kenney J, Barba P; Use of media-rich real time collaboration tools for learning and teaching in Australian and New Zealand Universities. 2012.
3. Japan government ; Broadcasting education. 2000.
4. Garrison DR, Anderson T; E-Learning in 21st century: A framework for Research and Practice. Routledge Falmer Taylor & Francis Group, London. 2002.
5. SER; ICT en arbeid : advies informatie- en communicatietechnologie en arbeid. Den Haag : SER Sociaal-Economische Raad.. 1997.
6. SER; ICT en onderwijs. Den Haag: SER Sociaal-Economische Raad. 1998.
7. Giddens A; Classical social theory and the origins of modern sociology. American Journal of Sociology, 1976; 703-729.
8. James R, Krause K, Jennings C; The first year experience in Australian Universities: Findings from 1994 to 2009. Centre for the study of Higher Educatio. Melbourne, Australia. 2010.
9. Tushman ML, Reilly O, Charles III A; Organizations: Managing Evolutionary. California management review, 1996; 38:4.