JOURNAL OF INTERNATIONAL ACADEMIC RESEARCH FOR MULTIDISCIPLINARY
Impact Factor 1.393, ISSN: 2320-5083, Volume 2, Issue 3, April 2014

DEVELOPMENT IN INSTITUTIONS OF HIGHER LEARNING: A TECHNOLOGICAL IMPACT

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ABSTRACT

This paper explores how the world is a midst technological advancement since the industrial revolution. It has moved from chemical to electronic processes, industrial to a learning age, manual to automated labour and analogue to digital. Whereas technological revolution is proceeding with a high speed, University professors can now efficiently organize and develop their own materials for each course they teach. Virtually all publications should be written, typeset and electronically distributed. The technological breakthrough in Education which started in the early 1980s struggled in development but continues to compete with digital video interactive developments of blue chip companies like Intel. This has created a user friendly technological and educational development. This paper establishes that there are striking similarities between technological advances made in both the 20th and 21st centuries. These advances have offered Universities many new possibilities though with new challenges. These rapid technological advances in higher education are pushing for learning institutions into searching for synergy for systems and library disciplines. The study concludes that Universities will be giving much attention towards creating knowledgeable students by preparing them to fit in the labour market.

KEYWORDS: Technology, Knowledge, Institutions, Students, Electronic

INTRODUCTION

The search and creation of synergy for combinations, co-operations, partnerships and correlations means working together of different technological innovations by forging and pressing inwards, upwards, outwards, downwards, downwards upon tertiary education institutions. For quite some time, technology has been revolutionized explosively with knowledge development causing and paving way for both external and internal university interdisciplinary relationship. This synergy among disciplines is a calmination of result orientation greater than anticipated. Linkages among disciplines exhibits future promise in higher education.

RESEARCH METHODOLOGY

This research focuses on the 'Development in Institutions of Higher Learning: A Technological Impact'. The study covers Kenya as the universe of the study. Kenya was chosen as a suitable area of research because of its strategic position and higher number of universities in East and Central Africa. The study adopts descriptive design suitable for document analysis.

LITERATURE REVIEW

Changes in technology have hauled our present economy and given rise to a generation of students who have never known life without a computer. These changes have had significant effect on higher education. The decades to come with advanced technology will put education within the reach of many more individuals around the world, which will have greater participation and specialization in both curriculum and teaching methodologies than ever before. Being in the 21st century educated people will be the only one with skill sets of the future workforce (Elmonust, 2008)

Anderson (2012), higher education is susceptible to tech disruptions as other information centric industries such as news media, magazines, and journals, encyclopedias, music, motion pictures and television. The transition of knowledge need not be tethered to a college campus. This has sparked a robust re-examination of modern University's mission and its role within networked society.

According to Pedro (2003), students in higher education are heavy users of digital media, they want technology to improve teaching and learning whereas their teachers are far from being digital immigrants and they take for granted that the familiarity of students with technology makes them automatically savvy in information and communication skills.

Trow (2000) says that developments in higher education would have a major impact in colleges and universities in future. Different modes of learning require information communications technologies (ICTs) in higher institutions of learning. The short history of the internet and computer has provided many surprises some of them welcome.

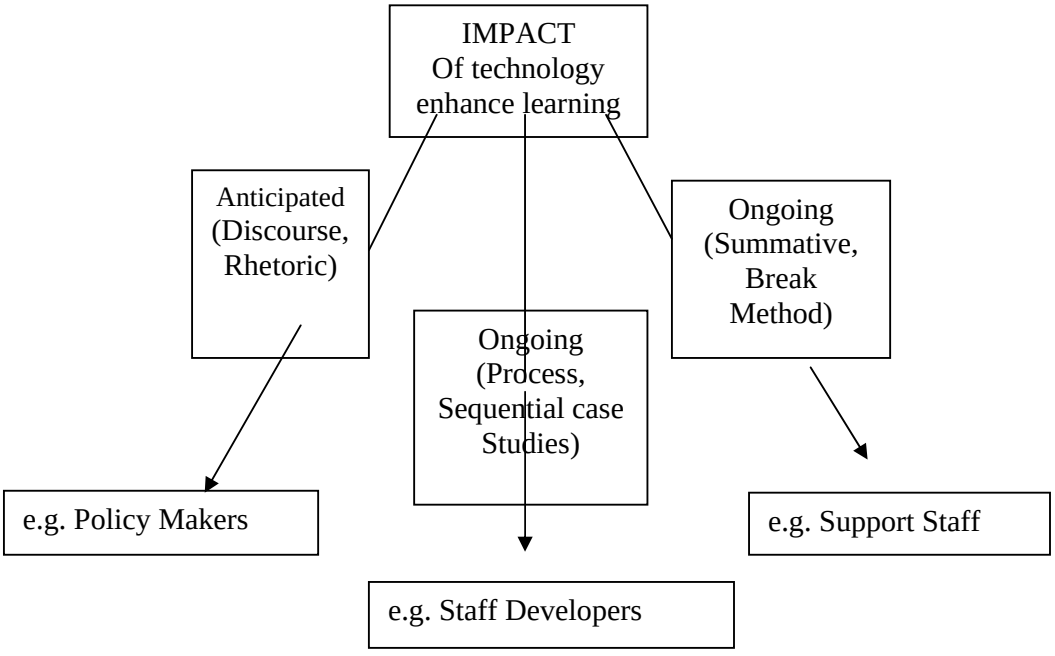
Jamil (2010) clarifies that ICTs are being used by teachers from different universities in teaching and learning process in different modes such as in preparing lectures, and notes online, construction of question papers on computer, preparing and analyzing student results online to asses and improve teaching and learning. Nyamache & Cheptum (2012) further argue that ICT can be used to manage student records.

Price & Oliver (2002), examine that current models of teaching are frequently used to underpin predictions of ways in which technology will be used. The role of a teacher as a facilitator online is equated with that of facilitating any teaching situation; dissemination of information online expressed as being similar to email or paper in face-to-face situation. Nyamache and Nyambura (2013) showed that Kenya's government recognizes ICT literature workforce as a foundation on which Kenya can acquire the status of a knowledge economy by the year 2030. That, government shall make education a natural platform for equipping the nation with ICT skills in order to create dynamic and sustainable economic growth. Computer technologies have been in harmony for nearly 3 decades and yet we still ask questions about their effectiveness on either/or terms. Some of the concerns are whether due to technology use. Is it possible for it to be applicable for either in groups or individually by instruction.

THE ORETICAL FRAMEWORK

This study is anchored upon Price and Oliver (2007) model (figure 1) that is based on the impact of technology on teaching and learning in higher institutions of learning. This framework elaborately explains what impact technology has on the roles of academic staff in higher education and how models of teaching and learning play in the process of technology adoption in which the final analysis considers and focuses on the process of technology adoption and its reference to a particular audience – staff developers.

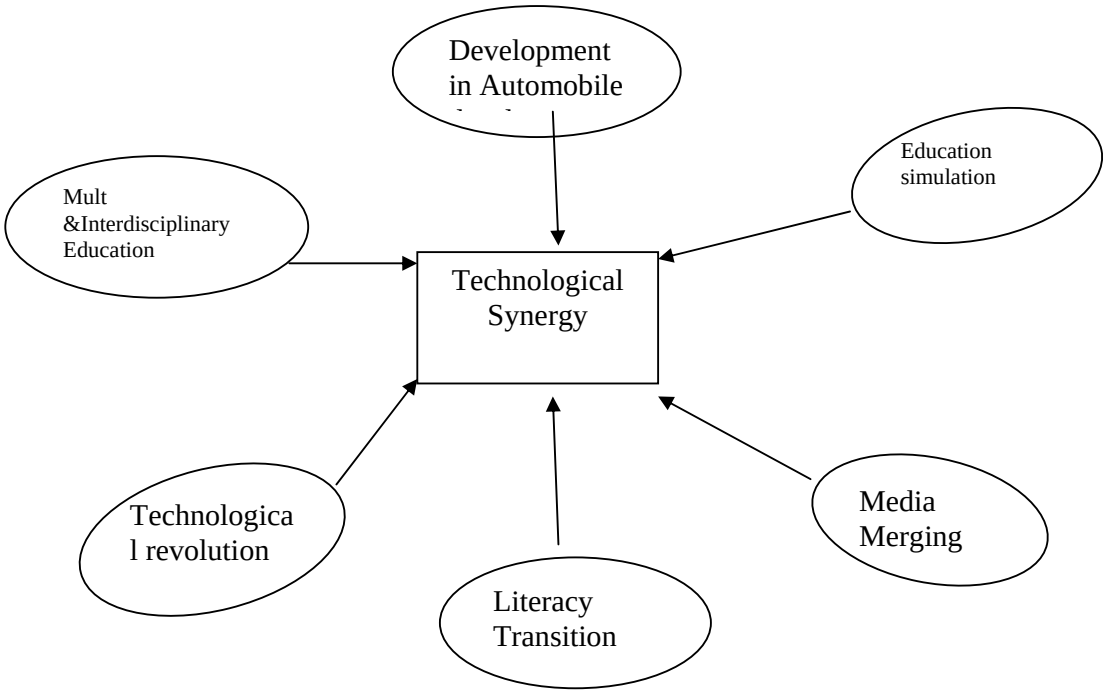
Fig1: Approaches to Impact of Technology in Higher Learning



Each of these 'positions of technology' differs and suggests the employment of different methodologies: Anticipated impact might be studied using discourse analytic approaches; to understand the impact of Processes of integrating technology a longitudinal method may be appropriate, involving sequential case studies; to understand achieved impact might require retrospective evaluation or the identification of the practices that rely upon a particular technology.

CONCEPTUAL FRAMEWORK

Fig.2: Technological Breakthrough and Synergy



Source: Own conceptualization

Adoption of synergetic approach towards educational development through technology will be possible through the engagement of trained personnel with capacity building skills, increment of telecommunications and capacity for students to diversify educational courses, increment of digital learning to enable students learn from wherever they are, making educational simulation applicable to students to be literate, significant increase in both Interdisciplinary and multidisciplinary research in higher education, merging various and ensuring flexibility in developing competence in individuals fit enough in the 21st century.

DISCUSSIONS AND RESULTS

Interdisciplinary in higher education

The search for inter linkage among disciplines critically emphasizes on the importance of education and its development in various skills. Educated people must be the ones to handle organization projects from the beginning to the end. College educated human resources are the ones who fit the bill. It requires hands on trained personnel; practically oriented. With ICT knowledge, fewer workers with the abilities are the ones to do more complex assignments. Parnell (1990) and Nyamache & Nyambura (2013).

According to Lindgren (1989), there is a critical shortage of trained personnel in main factoring. There are instances where new technology is failing because the skills are not available to design, build, install and operate state of the art equipment. There is need to revamp training capabilities to give young employees skills in computer, aided design, computer programming, electronics repair, systems design and wide expanse of new skills that only a few years ago were not required of factory personnel.

Kenya's manufacturing system, in fulltime will rely on smaller units perched together in the production process and ultimately in delivery of services. This will result into fewer individuals trained to perform fewer and specific tasks; few mistakes will be experienced and above all short time taken in manufacturing.

Technological changes motivate fundamental paradigm shifts that require a workforce well educated, highly skilled, highly adaptive notwithstanding. After sometime workers' ability becomes obsolete which demands that at any level the workforce will need basic literacy skills which enables them to be learners in their work environment and adjust to new work situations and environment.

Merging of various media

Synergistic merging of various media creates a special example of unity among various technologies. There has been transformation of telephone networks which enable users to communicate in combinations of video, text, and voice. Various telephone companies have combined functions of telephone, data networks, video conferencing and cable television. The installation of fibre optic cable locally and interstate transmission networks, end users mostly colleges and universities, businesses, homes and individuals; there will be communication everywhere, at anytime, through visual, voice, data among others.

Television industry and cinemas have become one. Both have moved to a situation where there is speed and efficiency. Textbooks have been transformed into interactive video discs which have been around and developed into full motion technology which hasn't been an easy task. This exemplifies search for synergy which has brought individuals with various skills, knowledge and abilities. This happens because when digital audio disc combines with full motion video and visual element and computer capabilities enabled to permit easy-to-use interactions.

Learning and teaching is made easier when textbooks include CD-I on the backs cover that would simulate and illustrate difficult concepts that are presented in the text. Through this approach, educators and learners will be able to meet individuals learning patterns and various styles of learning of each student.

Impact of Technology upon tertiary institutions

In the last six (6) decades or so, the world has been amidst technological revolution from chemical processes to electronic ones, from industrial age to a learning age, from manual labour to automated labour, from analog to digital from cow chip to potato chip to silicon chip with memory of capacity containing millions of memory bits. With this speed in development, university professors can now organize their work tailor made for each course they teach. Virtually all publications are written and typeset electronically and ultimately distributed electronically (Parnell, 1990).

The creation of user friendly educational telecommunications programmes with institutional identities. Students have more options at their disposal in the selection of higher education programmes. Students in Universities across Kenya can now access via fibre optic cable, course work, located far away from their homes. Higher education system in Kenya has been based upon institutional autonomy and geographic location. Distant learning has increased via satellite expansions (Nyamache & Cheptum, 2013).

Higher education is founded at primary school level. Students intensely follow high school curriculum to prepare them for university education. It therefore remains the responsibility of high school teachers to tech-prep students in readiness for tertiary education and ultimately towards orientation. There is need for collegiate curriculum reform and review to match economic needs of Kenya's economic needs (Nyamache and Nyambura, 2013)

Technological breakthrough made its way through stimulated learning by utilizing a new technology like interactive Compact Disc (CD-I) which has moved through various stages and emerging upon consumer and education scenes with a lot of potential. It now appears to be a very important user friendly technological educational development of all time.

CONCLUSION

In search for synergy, employers, labour organizations and tertiary institutions must forge ways of working together in fulltime. Universities as providers of higher education must find better ways to work synergistically with both primary and high schools in Kenya. Educational technologies are powerful tools to improve education as vessels to extend both teaching and learning process. Expanding research and development in human resource and ensuring equity in access of collegiate learning depends upon universities. Above all, no single sector of an economy can soldier alone. It needs to partner with others to create synergy.

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