

# **Implementing E-learning and the quest for Quality in Higher Education in sub- Saharan Africa: Conceptualizing the prospects and challenges.**

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# Introduction

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- ◎ Higher Education in Sub-Saharan Africa faces formidable challenges caused by changing student demographics, severe financial constraints, lack of experts and lingering institutional rigidities.
- ◎ Increased demands are being placed on higher education to provide greater student access to higher education, better undergraduate programs, increased productivity and 21<sup>st</sup> Century skills.

- ◎ To address both sets of issues, institutions of higher education or Universities are turning to e-learning that promise to increase access, improve the quality of instruction, and control costs.
- ◎ Internet is the preferred technology to improve instruction, increase access, and raise productivity in higher education.
- ◎ College and university instructors can now routinely post their syllabi and course readings to the World Wide Web or use the virtual Learning Environments.

# E-learning transforming teaching

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- ◎ E-Learning is instrumental to a fundamental change in the **processes and organizational structure** of postsecondary teaching and learning. In this regard, the e-learning can transform higher education into **student-centered learning** rather than institution and faculty-centered instruction

# E-learning transforming teaching

- ① E-learning will encourage new collaborative arrangements between academic institutions and for-profit entrepreneurs and permit these partnerships to extend their reach nationally and internationally.
- ② According to Khan (1997) the Web has become a powerful and democratic medium of learning and teaching at a distance.

# E-learning & Learner centeredness

- The internet provides an opportunity to develop **learning on demand** and learner centered instruction and training.
- The **Names associated with e-learning** include: Online learning, web-based learning(WBL), Web –based training(WBT),Internet Based Training(IBT), Distributed Learning(DL),Advanced Distributed Learning(ADL),Distance Learning, Mobile Learning(or M-Learning),or Nomadic Learning, Remote Learning, Offsite Learning, aLearning (anytime, anyplace, anywhere learning)

# Definition of e-Learning

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- A review of literature reveals a number of definitions of e-learning. Generally e-learning is reviewed as **delivery of individualized, comprehensive, and dynamic learning contents in real time, aiding the development of communities of knowledge, linking learners and practitioners with experts.**
- Toth (2003) describes e-learning as a comprehensive term used generally to refer to **computer learning** although it is often extended to include use of the **mobile technologies such as mobile phones, PDA's and other technologies.**

- Practitioners with e-learning includes use of web-based teaching materials, multimedia, CD ROMs, websites, discussion boards, collaborative software, email, blogs, wikis, Computer Aided Assessment, educational Animations, simulations, games, Learning Management software among others. In case where mobile technologies are used, the term m-learning has become more common while e-learning is naturally suited to distance learning and flexible learning, it can also be used with face to face teaching hence the term blended learning.

## Definition Cont...

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- ◉ Romiszowski (2004) goes a head to define e-learning in terms of either an individual activity or collaborative group activity employing both **synchronous (real time) and Asynchronous (Flexi-time) communication modes.**
- ◉ Table 1 shows Romiszowski's structured definition of e-learning:

# Table 1: Romiszowski's Definition of e-Learning

	E-Learning model	Examples of individual Self Study	Examples of group collaboration:
1	<b>Synchronous model (online study, real time interaction with instructor)</b>	Surfing the internet, accessing websites for Information(following up a web quest)	Chat rooms; with (out) video, Electronic Whiteboards/Smart boards, Video and Audio conferences.
2	<b>Asynchronous model (offline study, no real time interaction with instructor)</b>	Using stand alone courseware/Downloading materials from internet.	Asynchronous communication by email, discussion lists, or Learning Management Software (Blackboard, WebCT and Moodle)

# Potential market for e-Learning

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The potential market for e-Learning includes such heterogeneous groups as:

- ◉ **full-time students** temporarily off-campus because of illness, work, or travel
- ◉ **military service personnel** and their dependents
- ◉ **prisoners**
- ◉ **retirees** and others not actively working
- ◉ on-campus students who want to take classes from another institution
- ◉ people working **full- or part-time**
- ◉ **parents** at home with small children
- ◉ people living far **away** from educational centers

## Advantages & Disadvantages of e-learning

Raab et. al. (2002) argues that e-learning enables learners to access courses at times they find convenient and not only during the periods in which traditional learning is scheduled. As compared to the traditional form of learning, e-learning offers more Interactivity, greater flexibility, more functionality, and potentially lower costs:

### ***Interactivity.***

- E-learning is inherently a two-way medium that facilitates both one-to-one and group communication, both in real time and asynchronously.

### ***Flexibility.***

- E-learning provides on-demand access to course materials and discussions at the student's preferred time, pace, place and also without over-dependence on the time constraints of the lecturer (Liaw, 2007; Capper, 2001).

## *Functionality*

- ◉ Through e-learning, students can have **ready access to images, video and audio, as well as text materials.**
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### ***Cost and Access.***

- ◉ For academic institutions, providing instruction and instructional materials on the Internet should be less expensive than delivering the same materials through face to face.

### **Ease of updates**

- ◉ E-learning enables the content to be easily and regularly updated and instantly available to all learners

### **Collaborative learning**

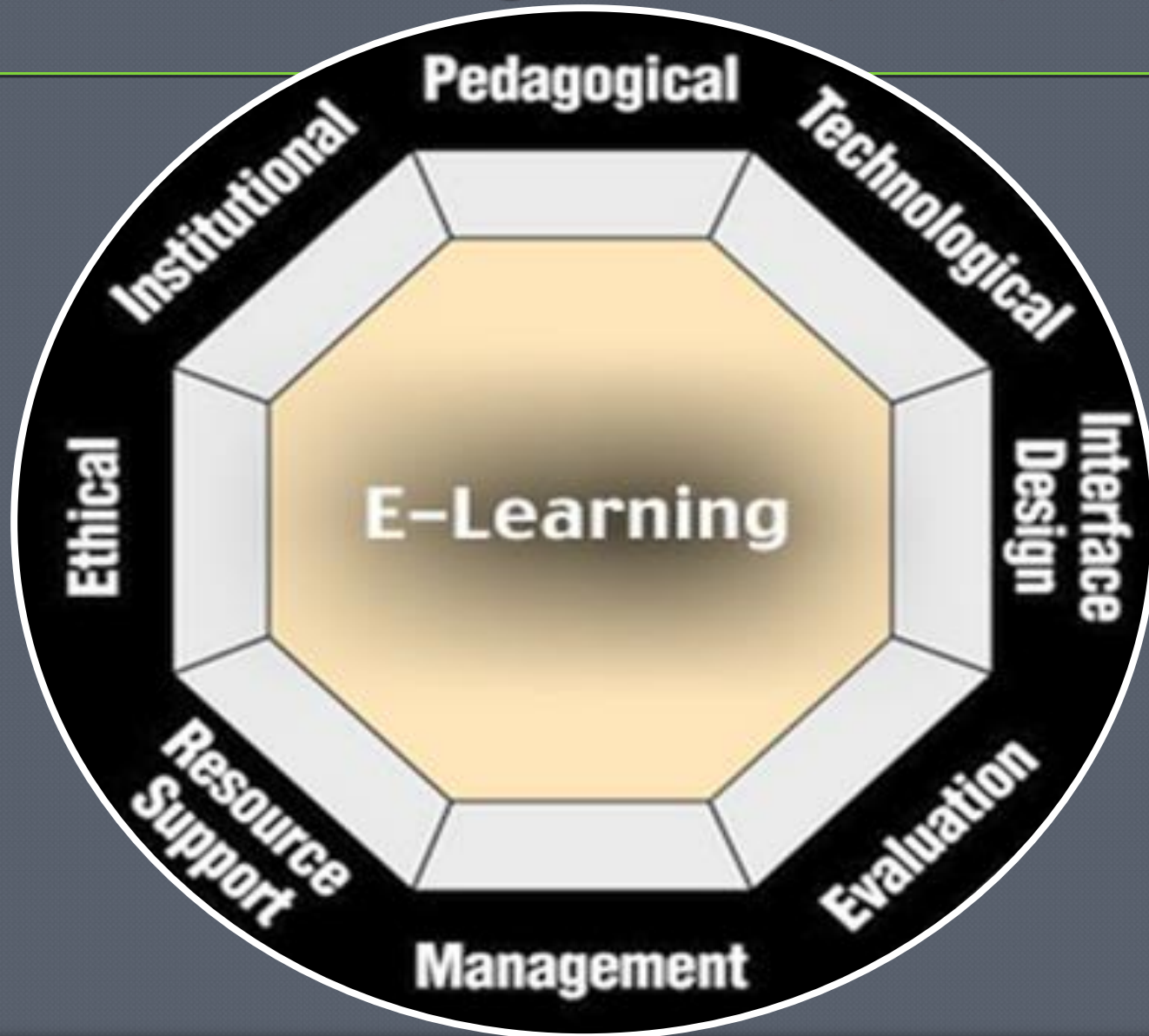
- ◉ E-learning promotes more collaborative learning resulting in more engaging and richer learning experiences

# Quality Implementation of e-Learning: a Conceptual framework

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- Success in e-learning in Higher Education involves a systematic process of **planning, designing, evaluating and implementing online learning** where learning is actively fostered and supported (Ndume, 2008; Liaw, 2008).

# Figure 1: Conceptual framework for e-learning Akhan (2007)



Dimensions of E-Learning	Description
<i>Institutional</i>	Concerned with issues of administrative affairs, academic affairs and student services related to e-learning.
<i>Management</i>	The processes and activities aimed at maintenance of learning environment and distribution of information.
<i>Technological</i>	Aggregation of technology infrastructure in e-learning environments. This includes infrastructure planning, hardware and software.

Dimensions of E-Learning	Description
<i>Pedagogical</i>	The pedagogical dimension of e-learning refers to The theoretical underpinnings and practical issues considered in the implementation of e-learning curriculum. This involves issues concerning content analysis, audience analysis, goal analysis, medium analysis, design approach, organization, and learning strategies.
<i>Ethical</i>	The ethical considerations of e-learning relate to social and political influence, cultural diversity, bias, geographical diversity, learner diversity, digital divide, etiquette, and the legal issues.
<i>Interface design</i>	The interface design refers to the overall look and feel of e-learning programs. Interface design dimension encompasses page and site design, content design, navigation, accessibility and usability testing.

## Challenges and success factors in the Implementation of e-learning in universities in sub-Saharan Africa

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Review of literature reflects scarcity of research on development and status of e-learning in Africa. A number of regional studies **however** suggest that different countries are at different levels of development in regard to e-learning adoption. According to Unwin (2008), in Africa there is a wide variety of e-learning practices, e-learning is still at developmental stage but there a lot of enthusiasm towards e-learning initiatives. Generally, there is a growing perception that e-learning could improve motivation, student attainment and social development (Hollow, 2009).

At the same time a number of issues have been identified that present significant challenges to the development of e-learning in sub-Saharan Africa. A study by Hollow (2009) identified the following as the priority areas in the development of e-learning in Africa: change of mindset in favour of e-learning, training, improvement of and ICT infrastructure including internet connectivity, creation of organization structure to manage e-learning, and creating appropriate techniques of monitoring, evaluation and assessment.

# Challenges Cont...

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Other challenges to implementation of e-learning programmes in sub-Saharan Africa include the following.

- **Cost of implementation**
- **Lack of awareness of e-learning**
- **Bandwidth issues and connectivity**
- **Lack of computer literacy**

- Rom burgh (2005) reveals that research has shown some of the reason why technology based learning or e-learning that is similar to individual tutoring can be more effective than classroom learning:
- According to a study carried of e-learning in Africa, Unwin (2008) has argued that measures that can be used to improve e-learning implementation include:
  - Ensuring adequate availability of requisite hardware
  - Improved bandwidth and connectivity
  - Acquisition of software
  - Creation of policies that facilitate smooth management of e-learning
  - Lowering the prices for internet connectivity
  - Ensuring availability of electricity
  - Raising awareness about the value of e-learning
  - Training lecturers in e-learning processes

# SUCCESS FACTORS

- The universities in sub-Saharan Africa should embark on extensive programs to make wideband Internet connectivity ubiquitous on campus. ~~This will ensure that the institutions remain competitive for attracting many~~ students and faculty. Embracing e-learning should on the whole lead to improved quality of undergraduate and graduate instruction, and to better on-campus administrative services, but it seems unlikely by itself to bring about overall productivity gains. Research universities also will seek to broaden access through increased e-learning courses to degree and non-degree students off-campus.
- Higher-education institutions in Sub-Saharan Africa will have to use the Internet/e-Learning incrementally to improve administrative processes, on-campus instruction, and distance learning.
- It will rather quickly become the preferred means to reach off-campus students.
- Regulation, bureaucracy, tradition will remain barriers to more fundamental academic restructuring.
- A few academic institutions, spurred by vision or crisis, will seek to reorient instruction toward distributed, student-centered learning with heavy use of e-learning courseware, discussion groups, and links to other online resources.

- Diploma and Degree programs will migrate to e-learning more slowly, although most colleges and universities will soon offer at least some courses online for degree credit.
- The virtual universities will provide the lowest-cost degree options, although face-to-face interaction will still play important roles in attracting degree students.
- Nevertheless, ready availability of courses over the Internet at lowest cost to the student will encourage more off-campus learning.
- Through e-learning, more students will earn their degrees by taking a mix of on-campus and Internet based off-campus courses. And as competition increases, students will be able to take more e-learning courses for credit from sources other than their own degree granting institution. Finally, e-learning will complement rather than supplement face to face or on campus traditional higher education. Many young adults still want the face-to-face instruction and social interactions they get on campus, even if it is more expensive than e-learning.
- For most secondary-school graduates, the issue will not be choosing between full-time, face to face /on-campus study and 100-percent e-learning, but selecting a mix that is educationally sound, accessible, and affordable.
- Institutions of Higher Education moving from providing infrastructure and publishing courseware to actually offering e-learning based courses seems a logical next step.

# e-learning & long life learning

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With greater marketing prowess, lower cost structures and fewer institutional constraints, academic institutions and private firms may be able to use e-learning to compete effectively for students in some areas of non-degree and degree instruction such as:

- remedial courses for entering college/university students
- extension courses for adults
- professional continuing education
- short courses for managers and executives
- Any other adults with busy lives who want to study.

# Conclusion and recommendations

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- E-learning is rapidly developing to become an acceptable complement or alternative to traditional education delivery systems.
- Implementation of e-learning current courses must be redesigned, reliable ICT infrastructure, students as well as lecturers must be trained on how to use e-learning technologies.
- In order to propel the adoption of e-learning across the region, it is important for research information regarding critical issues such as perceptions towards e-learning, the effect of various success factor on e-learning implementation process, penetration rates, groups with special needs, as well policy requirements as well as assessment techniques.

# References

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- Capper, J. (2001). E-learning growth and promise for developing world. Techknowlogia, May/June. Available at <http://www.Techknowlogia>.
- ECAR (2003). Supporting e-learning in higher education. Available [www.educause.edu/ecar/](http://www.educause.edu/ecar/)
- Hall, B (2004) FAQs About e-Learning. Brandon-hall.com. <http://www.brandonhall.com/public/faqs2/index.htm> (2004). Accessed on 25<sup>th</sup> May
- Hiltz, S R. (1994). *The virtual classroom: Learning without limits via computer networks*. Norwood, NJ; Ablex Publishing.
- Khan, B.H (2001). A framework for Web based Learning. In B.H.Khan (Ed), *Web Based Training*. Englewood Cliffs, NJ; Educational Technology Publications.
- Khan, B.H (Ed) (1997), *Web based Instruction*. Englewood Cliffs, NJ; Educational Technology Publications.

# References

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- Liaw, S (2007). Investigating students' perceived satisfaction, behavioral intention, and effectiveness of e-learning: a case study of the Blackboard system. *Computers and Education*, 51 (2008), pp. 864-873
- Ndume, V. (2008). Challenges facing adaptive e-learning at higher learning institutions: a case study in Tanzania. *International Journal of Computing and ICT Research*, Vol. 2 No. 1, pp. 47-59
- Toth, T (2003) Animation-Just Enough, Never too much;  
<http://www.learningcircuits.org/2003/aug2003/toth.htm> Accessed May 2012.
- Raab, RT, Ellis, WW & Abdon, RB (2002). Multisectional Partnerships in e-Learning; A potential force for Improved Human Capital development in Asia Pacific. *Internet & Higher Education*.
- Romiszowski, JA (2004) *Educational Technology*, January –February 2004 Volume 44, Number 1, PP5-27 Accessed on 25<sup>th</sup> May 2012; [http://BooksToRead.com/etp/elearning\\_failure\\_study.doc](http://BooksToRead.com/etp/elearning_failure_study.doc). 2012.
- Unwin, T (2008). *Survey of e-learning in Africa*. Paris: UNESCO
- Van Romburgh, H (2005) The relation and Differences between the Use of Technology Based Learning in Third World and First World Countries-A case study.