A NOVEL LEARNING ENVIRONMENT: Case Study of the Pan African e-Network Project

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ABSTRACT

The constructivist form of learning creates such an environment where the learners are not only active but they become actors' i.e members and contributors of the social and information space without taking into consideration the geographic boundaries. Such an innovative form of distance education was initiated in India in the year 2007 and it was meant to be offered as cross-border tele-education to the states of the African Union. The objective was two-fold: first to benefit the disadvantaged African learners who missed out opportunities to attend regular universities and earn degrees or seek employment. Secondly it was to promote the educational service of India under the umbrella of GATS (General Agreement on Trade in Services) which was operational since 1996. Initiatives were taken by the Government of India and the African Union to boost the usage of the available resources in IT, medical sciences etc. for the growth of the people of the African countries so that they could compete with the rest of the world. African learners can access higher education with the usage of Information and Communication Technology (ICT) which is considered to be the demand of the coming generation. The tele-education concept employs sophisticated technology, state of the art studio and the best of the class facility. The mode of this tele-education is made feasible through a virtual platform where education is imparted through a two way audio and two way video communications spreading over multiple countries of Africa in a single session.

This paper is in attempt to describe this innovative form of virtual education and look into its impact on the African learning community. The general feedback is that the students have been greatly benefitted and the demand for such form of education has also increased multi fold with the students' enrolment having increased manifold, especially for the management programme.

Keywords: **Cross-border tele-education, African Union, virtual, learning community.**

INTRODUCTION

It is an accepted fact that the introduction of communication and information technologies, (ICT) method of teaching especially in the field of distance education has played a very important role in the development of the society.

If we look at the evolution of distance education we find that over the past century distance education has passed through several generations from d-learning to e-learning and to m-learning. Distance learning which has been used since 1700s in the form of correspondence education now has come as far as using the most spectacular and innovative form of ICT-enabled teaching-learning providing virtual education across the borders in the global platform.

This innovative form of e-learning is naturally suited to distance learning and flexible learning; Bernard Luskin says that the "e" should be interpreted to mean exciting, energetic, enthusiastic, emotional, extended, excellent, and educational in addition to "electronic". With its numerous methods of communication, it gives a variety for the user to choose and makes the learning method as real as possible.

Though different methods have been used in the form of video tapes, telephones, radio but it is a stated fact that learners find more comfort with their access to computer, internet etc. The recent development is of two way communication technology that allows interaction between the learner and the instructor through internet.

This method of learning has forced the researchers to study its impact on the learners. New ICT applications have given rise to the term "any time any place," and with this development of the "virtual" aspect educational programmes have facilitated learners to study at their own pace, place and will.

Interestingly the distance education theorists during the recent years have attempted to classify the use of teaching aids and technologies into generations. A general classification is as under:

- **Generation I-Mail able materials: including print material and audio and video cassettes.**
- **Generation II-Education through Air: Broadcasts, Telecasts, Talkback TV**
- **Generation III-Computer based tele technologies: CD-Rom, Multi-media and Internet**
- **Generation IV-Technologies of Immediate Future: Virtual Classroom.**

EXPERIENCES

Tele-education is a revolution of distance learning in which distance learning is provided in both asynchronous and synchronous learning environments. The system of tele- education involves a greater knowledge of computer applications as the same is the combination of all. This includes slide presentation, chat during live sessions, video conferencing etc. Tele education is a combination of many components and all play a vital role in education delivery:

- **Tele-education service**
- **Content of Tele-education**
- **Network Architecture**
- **Operation and management of education**
- **Performance measurement**

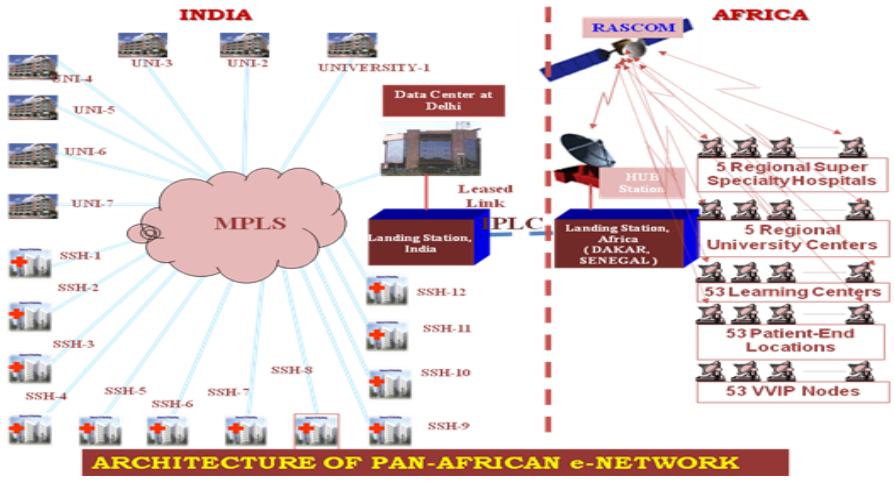
Normally, the interactive tele-education delivery system software is designed to have the following components:

- **Portal Management System-provides access to the Learning Management System (LMS) for integrated access to all asynchronous (offline access) components through login. his enables the administrators, experts, faculty and students to access news & events, photo gallery, announcements, flash news, feedback and director**
- **Studio Management System-This enables an administrator to schedule and control the management of (multiple studio management) studios located in various university from where lectures would be delivered by the teacher. The registered teachers/experts can be fixed with the available studio timeslots and the selected lecture topics.**
- **Content Management System-it facilitates the deployment of syllabus and the online course content over the web through dynamic workflow for verification, validation and approval for final deployment of the course contents.**
- **Digital library-It provides the facility to upload, store, index, categorise and view the electronic books, journals, manuscripts in some standard formats.**
- **Knowledge management system (KMS)-This is to capture the live lecture events and interaction between teacher and student for review learning purpose at student's own convenience and pace. This will provide the recorded lecture events through web and simulates the live virtual classroom.**

From the above classification, the most talked about term on tele-education is the Virtual Reality which is cropping up all over the place - in trendy magazines, on cable news networks, and now in academic journals as well. Interestingly the dictionary defines virtual, "as existing or resulting in essence or effect though not in actual fact form or name", and reality is "the quality or state of being actual or true". As technology, Virtual Reality is being defined as, an interactive computer system so fast and intuitive that the computer disappears from the mind of the user, leaving the computer-generated environment as the reality.The best application of ICT and the virtual education is the prestigious Pan Africa e-Network Project. My paper is a case study of this project which is an excellent form of providing entrepreneurial education to the learners across the globe, with special reference to Africa. The birth of the Project was the result of the visit of Dr. A.P.J. Abdul Kalam to African countries in 2003-04, when addressing the Pan-African Parliament in Johannesburg; he proposed to provide seamless and integrated satellite, fiber optics and wireless network for connecting all African nations. The Pan-African e-Network project has the objective to provide tele-medicine and tele-education to Africa. For this operation 53 tele-medicine centers and 53 tele-education centers in Africa would be electronically connected. This network uses state- of the- art technology, linked with the latest technology like Wi-Fi and Wi-Max.

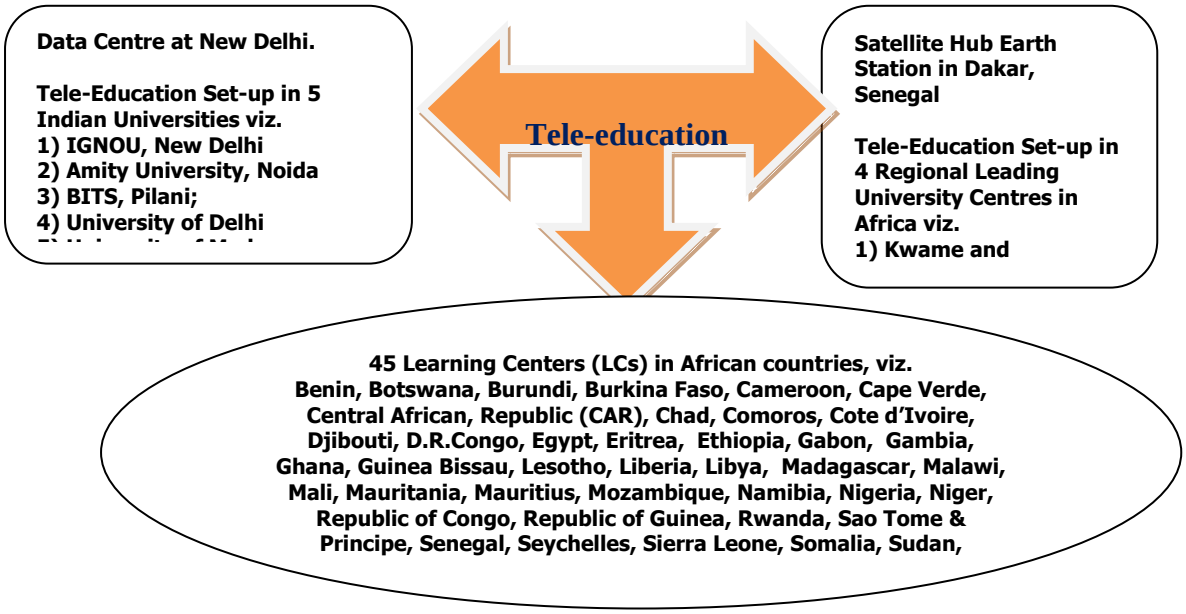
The network is scalable to support different applications with the increase in number of users and it would play a vital role in socio- economic growth of many nations and societies. IGNOU, the prime Distance learning university in India has been identified as one of the nodal centres to provide tele-education to these African states. The Pan-Africa tele-project has two phases: one is the Pilot phase and the second is the Main phase. During the first phase 11 African countries joined the project. It was inaugurated by the then External Affairs Minister on February 26, 2009 and in the second phase; another 12 African countries joined the project, which was launched in August, 2010.

To give a brief picture of the Pan-Africa project the following diagram would explain about the Data centre at Delhi with its tele-hubs located in 5 universities and IGNOU being one of them.



Source:http://www.panafricanenetwork.com/Portal/ProjectDetails.jsp?projectidhide=6&projectnamehide=Network%20Architecture**)**

Similarly the Hub-station in the counterpart African side would be at Senegal and its hubs located in 4 African universities. The objective is to connect 45 learning centers whose names are elaborated below in the circled diagram.



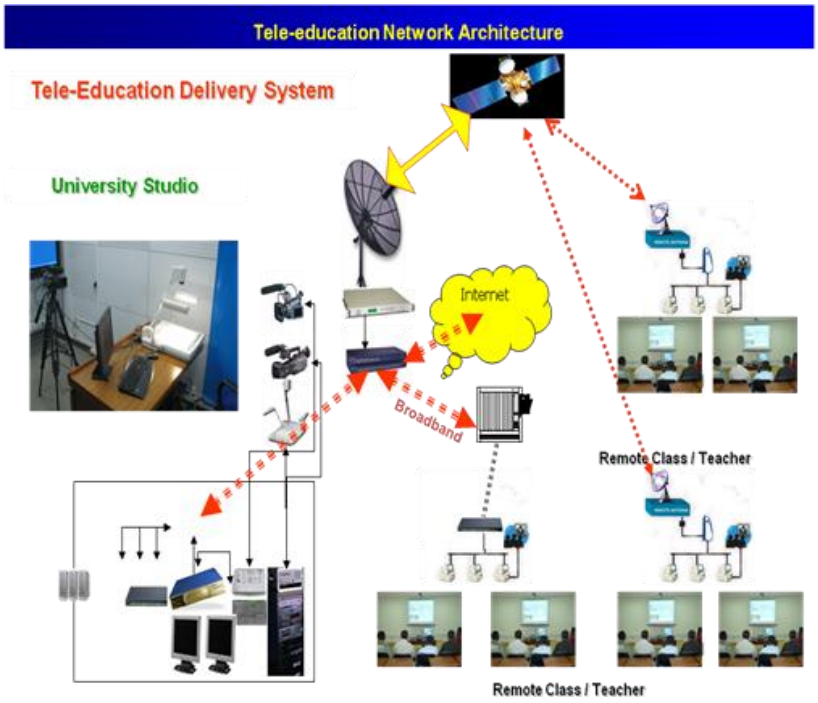
The five African Regional Universities are connected to the Hub via a 2mbbs broadband/VSAT (forward/uplink 2mbps/Return/downlink 512kbps) with all 53 Remote Virtual Classes distributed in all the 53 countries. The Seven Indian universities would be connected via submarine optical fiber cable link of International Private Leased Connection (IPLC) to the Hub located in Senegal, Africa. Tele-Education LMS portal comprises of the university details, e-learning material, KMS, digital library solutions etc.

The objective of this project is to provide education to ten thousand students in various educational programmes over a period of five years with a break up of 2000 in Post-Graduate (PG) programmes, 3000 in Under-Graduate (UG) programmes, 5000 in skill enabling certificate, diploma and PG diploma programmes.

Thus all the seven universities in India (IGNOU being one of them) are connected to a synchronous Tele-Education system for live virtual classroom platform which is linked to the central data centre at New Delhi with 2Mbps leased line link. All remote terminals access the Internet through the VSAT connectivity.

The project won the prestigious Hermes Prize recently for innovation in the field of sustainable development. The prize was announced May 2010 in Paris by the European Institute of Creative Strategies and Innovation, a think tank.

The features of Pan Africa project are: to create a universal tele-education system, multi-classroom environment, seamless two-way connectivity of video and audio, synchronized multi-media environment, digital library integration, internet resources availability, content-management and cost-effective connectivity.



(Copy right: Telecommunications India Limited, http://tcil-india.com/new/html/PAN%20Africa)

In delivering the teaching-learning over the virtual platform the teacher becomes the remote teacher who connects himself/herself to multiple learners from different countries at the same time.

In a multi-classroom virtual environment the learners get the opportunity to deliberate and share each other's views.

This is especially beneficial to such learners who are employed as they would be able to keep pace with the sessions; they have not attended due to specific exigencies. Majority of the learners being employed would get the benefit to access and download the information even after the office-hours with the help of user identification and pass word.The above diagram graphically explains the operations of the Pan Africa -e-network project where the linkage of the university tele-studio is shown connected to remote classrooms of Africa.

Pan-Africa-e-network project is a beautiful example of storage virtualization by which a data stored is distributed through single server to multiple physical resources. It operates on the patterns of distributed file systems.

The benefits of the tele-project may be briefly summarized as follows:

Key Benefits of Tele-Education Solution

- **Electronic Virtual classroom**
- **Planned learning**
- **Just in time learning**
- **Anytime/Anywhere learning**
- **More individualized learning**
- **Creative and reflective thinking**
- **Authenticated assessments**
- **Distance education operation competitive learning**
- **Development learning**
- **Problem-solving learning**
- **Efficient use of knowledge base**

To analyze the success and failure of the tele-education, it is necessary to make a thorough case study of the Pan Africa e-network project offered by the Indira Gandhi National Open University.

As the leader in distance education Indira Gandhi National Open University was given the opportunity to start the Pilot Project in 2007 by admitting 40 students from two Africa Universities: viz. Addis Ababa University and Harmaya University of Ethiopia.

The students of Ethiopia were taught by the core faculty of Management, IGNOU from the state-of-the-art studio at the University headquarters through the mode of tele-education. This was highly appreciated by the enrolled students under the Project. Thus 34 Ethiopian students completed their 5-semester MBA Course from IGNOU starting from 20th March 2007 in June 2009.

As regards the Main Project of Pan Africa, it started in the year 2010 and the countries admitted in the first cycle were Rwanda Egypt Malawi and Botswana .The programmes offered were Management, Diploma and Certificate.

RESEARCH METHODS

The population sample taken for my study comprises students of Master Programme (M.B.A.) and Diploma (DAFE and DECE) programmes from five African Countries viz. Egypt, Rwanda, Ethiopia, Botswana and Malawi.

Approximately in MBA (304), DAFE (115) and DECE (96) were admitted in the JAN 2010 cycle by the University. This study has been carried out over the time length of one and half year from beginning the Project, and the interactive tele-sessions have been closely monitored for this purpose to interpret the learners' response and the impact the project has on them.

The data has been analyzed keeping in view the span as mentioned in the above sessions during the course of study and the data has been analyzed for one academic cycle. The study is based on survey method. During the live interactive sessions and from two term end examination of the University 125 (96 of Masters and 29 of Diploma) students have been selected randomly.

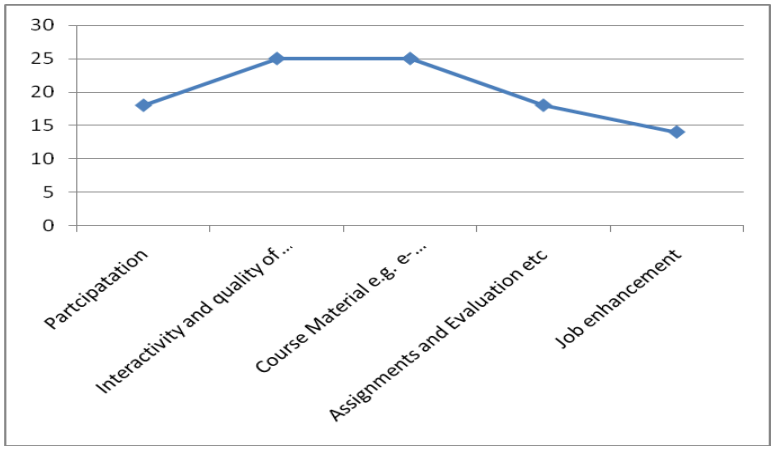
The basis of this random sampling is in terms of equal percentage of distribution i.e. learners' geographical background (Country wise) and gender from the participating countries other published and unpublished documents have also been consulted for this study. The respondents' views have been compiled, tabulated, analyzed and presented below.

Table: 1
Respondents' views

Respondents' Views on	Percentage
Participation in tele-sessions	18
Interactivity in classroom and among peer groups	25
Quality of presentations and understanding on the part of the learners	25
Assignments and Evaluation	18
Job enhancement	14
Total	100

FINDINGS

- **Most of the respondents being in job the virtual mode of teaching-learning have greatly benefited them.**
- **The proportion of female students is also high.**
- **Majority of learners were of the view that the initiative taken by the Indian government in offering this project have been beneficial for the learners of the African continent as a whole.**
- **The percentage of the learners in response to the technology and the method of teaching (25%) were higher than that of their Participation (18%).**
- **From the interaction with the learners and the analysis of the result (25%) most of them were of the view that course materials uploaded on the portal have helped them in their study as they could exercise freedom to access them at their own time and convenience.**
- **The learners (18%) were satisfied with the assignments and the grades/ marks obtained by them during the continuous evaluation of the learners.**
- **Majority of the students (14%) were having the view that the method of teaching in their respective country would help them in their job enhancement.**



On the subject of the tele-mode nature of teaching of the Project, it is clearly perceptible from the above data that due to the success of the project more than 9500 students have already got enrolled themselves over a period of three years and the numbers are on the rise.

SUGGESTIONS OF THE RESPONDENTS

- **The language difficulty in understanding was initially felt by the learners in the sessions.**
- **The timing schedule of attending sessions was in conflict with their job conditions as a result their regularity in attending sessions was affected.**
- **At times the respondents faced difficulty in understanding the mathematical problems in management classes.**
- **The respondents had queries about the examination system of the university, the nature of assignments to be submitted and other issues on logistics support to be given to them.**
- **As regards the understanding of the content they expressed their satisfaction.**
- **The number of sessions allotted were not enough for the courses, it would have been better if more sessions could have been allotted for discussion and problem solving.**
- **The time-gap of few seconds was there between the teacher at one end and the learners on the other side which at times broke the flow of a serious discussion.**

CONCLUSION AND FUTURE REFERENCE

The findings of the above study justify the need and importance of such tele-education even for the small developing countries. It would help greatly in the development of the online initiatives, minimizing costs associated with traditional training (e.g. travel), and provide flexibility for workers to be able to manage work and learning simultaneously, on their respective work places. Students taking education through this method would get additional knowledge about the technical skills of the applications of ICT while learning. It would be a productive tool in providing informal education and adult education and the capacity- building of teachers could be conducted by imparting training through such tele-mode.

My paper highlights the importance and growth of cross-border knowledge transfer through the virtual platform which has led to the transformation of the public education system.

Such an innovative form of education has enabled teachers and leaders to use their time more efficiently, allowing them to minimize administrative tasks, maximize time spent with students, and tailor their needs and entrepreneurial talent, promoting individual opportunities for self-employment and income generation.

The old quote of Lao Tzu: "Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime" continues to be a fitting reflection of this virtual mode of education.

Pan-Africa e-network project is the successful example of such entrepreneurial education which if run successfully in different countries of the globe would help towards community well-being and poverty reduction, one that binds the community together rather than pulling it apart. Such a virtual education can tailor goods and services to meet the basic needs of the community such as food, health, energy, and housing and then move slowly and steadily toward broader wealth generation Entrepreneurship education through tele-education would provide a mix of experiential learning, skill building and, most importantly, mindset shift, while developing attitudes, behaviours and capacities at the individual level that would not only help the individual career of learners but create a range of long-term benefits to society and the economy.

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