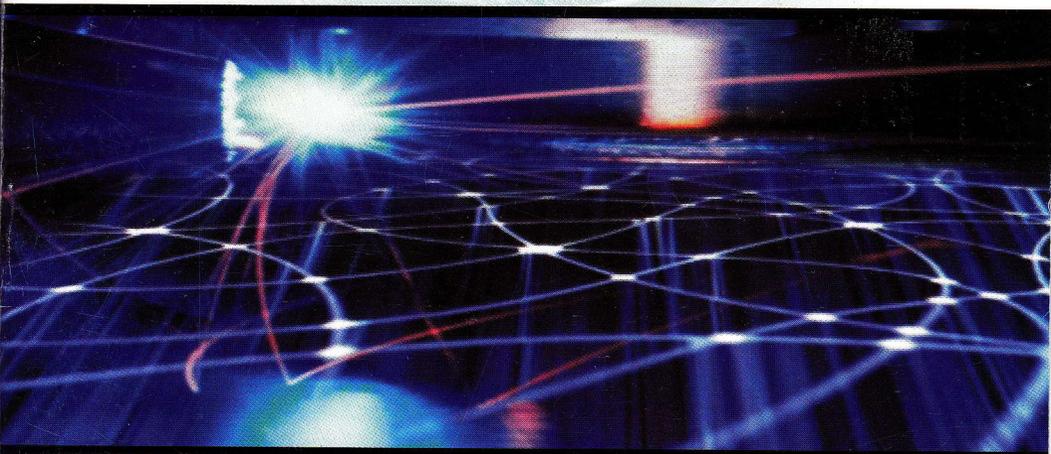


National Seminar on Innovations in Distance Education and their Applications

22 - 23 December, 2008, New Delhi

INNOVATION

Abstracts of Papers



National Centre for Innovations in Distance Education
INDIRA GANDHI NATIONAL OPEN UNIVERSITY

in collaboration with

Microsoft



TATA CONSULTANCY SERVICES

“Education is a liberating force, and in our age it is also a democratising force, cutting across the barriers of caste and class, smoothing out inequalities imposed by birth and other circumstances.”

- Indira Gandhi



“शिक्षा मानव को बन्धनों से मुक्त करती है और आज के युग में तो यह लोकतंत्र की भावना का आधार भी है। जन्म तथा अन्य कारणों से उत्पन्न जाति एवं वर्गगत विषमताओं को दूर करते हुए मनुष्य को इन सबसे ऊपर उठाती है।”

- इन्दिरा गाँधी

About the Seminar

We are witnessing an unprecedented technological revolution in all spheres of development, and education is no exception to it. The Open and Distance Learning (ODL) system, as an effective mechanism not only to reach large numbers with quality education but also to address the areas of educational intervention which were hitherto untouched by the conventional system, has taken roots in the country.

Application of ICT is increasingly playing an important role in making ODL interventions more and more effective and useful. There is a constant search going on for new and innovative technologies and their application in distance educational interventions to more effectively address issues of access, quality and equity. Educational institutes and the Industry are grappling with the issue of how exactly to harness and exploit the potentials of innovations in education systems, which include quality assurance, benchmarking, technological interventions, research and training. While all these developments are taking place, very little exchange of experience has taken place among the developers and users of new innovative technologies in the educational sector, particularly in the ODL system. In order to facilitate the exchange of experiences towards a search for the technologies that would facilitate innovative solutions for ODL system in India, and to foster the spirit of innovation, the National Centre for Innovations in Distance Education (NCIDE), IGNOU, is

organizing a National Seminar on Innovations in Distance Education and their Applications (IDEA-2008) on 22-23 December, 2008 at Convention Centre, IGNOU.

The aim is to gather knowledge, experiences, opinions and positions of experts in the field, and discuss the following themes.

1. Technology Enhanced Processes in Open Education
2. Innovation Perspectives in Distance Education- Possibilities and Challenges.
3. GenNext Education System-Mixed Mode Education and Multi Mode Delivery

This publication contains the abstracts of the main presentations to be made during the Seminar.

Distance Education – A Model for India Based on - PAN African Experience

Mr. R.K. Upadhyay* and **Mr. Vimal Wakhlu[§]**

** CMD, Telecommunications Consultants India Limited and*

§Executive Director, TX

Educated citizens are essential for sustainable growth of any nation. For a country of India's magnitude and diversity, ensuring education for all is a major challenge. We have not been able to fully grapple with this challenge effectively despite 60 years of independence. The only solution to this problem appears to be Distance Education. To enable this, Information and Communication Technology (ICT) offers solutions. Telecommunications Consultants India Limited (TCIL), having been entrusted with the task of implementing PAN African e-Network, has gained quite an experience in the field of Distance Education making use of the state of the art ICT technology. The objective of this presentation, apart from sharing of experiences in the PAN African e-Network, is also to translate this experience into a model for mass education through Distance Education at the national level.

IPTV on Mobile

Ms. Sujata Dev

CEO & MD, TIME Broadband Services

The Telecom industry in India is currently going through phenomenal growth and in fact is the fastest growing telecom market in the world. India has emerged as the second largest telecom market in the world, with almost 10 million mobile subscribers being added every month. In India we notice that the focus of this tremendous growth is shifting towards the rural areas, and a massive roll out plan of broadband is becoming instrumental in accelerating the social and economic progress of the country. With 3G, which is expected to be round the corner, the Mobile world will also migrate from narrow band to broadband. This will enable, "True Convergence" in the form of Value Added services (VAS) to reach the huge telecom users. Distant education will be empowered by these next gen technologies and will become a predominant product of VAS. The presentation includes discussion on i) convergence and India, ii) Next Gen Networks (NGN) distance education, iii) role of IPTV and 3G in disseminating education iv) the bundle of services on these innovative platforms, v) mobile TV to bridge the urban and rural divide, vi) the challenges towards a 100% connected India, and vii) education "Anytime, Anywhere, Any device".

The ICT Revolution and Modernization of Processes and Technologies for Open and Distance Education

Dr. Rakesh Mehrotra

*President and Head Rural Mobile Telecom Mission, Tata
Teleservices Ltd.*

The unprecedented technological revolution in ICT sector in past 10-15 years has made an impact on all segments of the society in a phenomenal manner. This has changed the way we think, we work, and transact business. It has even made an impact on our social behaviour. For the first time in the history of civilization, the world has shrunk to the extent that the global communities are networking beyond geographical and political borders, all most on real time basis. India has taken lead in the ICT sector. This provides an exceptional opportunity to us to develop innovative solutions for developing knowledge based society. The ODL system is bound to play a dominant role this direction. This paper presents the opportunities and the challenges in developing processes and systems for ODL using interactive and near interactive audio visual technologies, teaching aids, search engines, benchmarking and customize the learning process etc., which can be used for providing quality education to the masses even in rural and far-flung areas of the world. The processes and the systems described are user friendly and can be adopted in narrow band, broad band, fixed and mobile communication environments.

Systems and Pedagogy in Technology Enhanced Learning

Prof. K. R. Srivathsan

PVC, IGNOU

The objective of the presentation is to lay a basis for effective practice of technology enhanced education. We first present the limitations of the present 'bookish' education system of teaching against syllabus to prepare students to score in exams. Such education does not prepare the student to face real world situations, or, impart the insight into the abstractions, concepts and skill sets as implied in the course or instructional objectives. We then show a learning centered system of instruction wherein the students are engaged in each topic subject to an acceptable unit perfection requirement. This is achieved by a technology enhanced feedback driven teaching - learning process that is adapted to the nature of the subject and the topic or module that is being learnt. We also ensure in the process that the local teacher of the subject is well augmented by a networked support system that connects the teacher with subject matter experts. Together, the systems, network and processes constitute what we call as the Education Grid. Next we describe the kind of systems - collectively referred to as the Education Grid Gateway System (EGGS) that go into supporting the technology enhanced learning system. Lastly we show how we may adopt or adapt different well known conventional systems of pedagogy and evaluation processes over the Education Grid.

Technology Enhanced Learning: An Indian Experiment in Distance Education in Engineering

Prof. Kushal Sen

IIT Delhi

The modern day teaching and learning needs demand a great spread, standardization and access to education. The present system of imparting education through conventional system is too restrictive and may be costly. India has done various types of experiments, and IGNOU is one of the very successful experiments of India. The conventional distance-teaching-learning methods have been successful but are limited. Use of appropriate technology to enhance learning not only increases the reach but also keeps the content contemporary and sufficiently modular to cater to the needs of formal registrants as also to the needs of those who want to upgrade and enrich themselves. Technology today permits the use of text based interactive content as also the video based lectures and tutorials which make it personal, more receptive and friendly. Technology also permits self and auto-evaluation examination processes too. The National Programme on Technology Enhanced Learning (NPTEL), for example, has created web and video based courses and is available through a 24x7 satellite channel- EKLAVYA foot printing most of India. A recent study has shown that the video based study material is far more popular than the web based interactive learning material. One of the challenges is to make the video content more interactive with a suitable searchable content. The IP based streaming has also to address the infrastructural IT support and bandwidth availability across the network especially at the user end. The present presentation discusses the challenges and opportunities in dissemination of web and video based instructional content and the scope and need for public-private partnership for enhancing and supporting such processes. The biggest challenge is the conduct of practical sessions. Some of these issues also are the part of this presentation.

Learning Environment for Next Gen: Process Innovations

Dr. Ashok Jain* and **Sanjeev Singh[§]**

**Vice-President, EMPI, [§]Institute of Life Long Learning(ILL)
University of Delhi*

To better retain and revitalize the core components of teaching and learning the paper presents an integrated Open Knowledge Resources ICT model based on e.g. Learning 2.0, web 2.0 etc for engaging teachers in curriculum development, content design, development and effective delivery of content based of these new mode of collaborative teaching and learning. The paper also provides examples of creating content commensurate with emerging thrust on learning from real life situations and work place situations considered especially relevant for life long learners.

Enhancement of learning with 3D Experience and IPTV

Dr. Ajay Chauhan

CORE Technologies

The secret of ODL getting increasingly popular is ICT. Since ages, students have been craving to break open from the boundaries. Simultaneously, educational institutions world over are experimenting with various delivery knowledge delivery modes such as Just in Time (JIT) Lecture Method, Intelligent Tutoring Systems (ITS), Computer Based Training (CBT), Recorded or Digital Audio-Video (AV) and finally E-Learning and Virtual Learning. Two latest trends in ICT that are going to benefit educational institutions, especially ODL based institutions like IGNOU, are 3D Immersive Virtual Reality (VR) systems and IPTV. The first one will enhance learning as well as retention capabilities of students, whereas the second one will make it possible to learn anything, anytime, anywhere. Core Projects & Technologies Ltd (CPTL) has invested heavily in 3D Immersive technologies while many other organizations are taking interest in IPTV. This presentation introduces basic features of these two technology trends.

Innovative Use of Technology in Distance Education

Mr. Rajeev Mathur

Microsoft India

The talk will focus on the MSFT projects being done by UPG wherein the efforts are to deploy technology in the most simple and economic way to impart distance education. Some of the probable touch points for talk are; (i) **Imagine Cup**: It allows students from around the world to apply their passion and creativity for technology innovation that can create a better world; (ii) **Microsoft Digital Literacy**: It is an online curriculum for adult learners new to computing, providing them with a general awareness of the benefits and applications of computing, and teaching the basic skills to perform everyday tasks; (iii) **Partnerships for Technology Access (PTA)**: It is a global initiative that brings affordable and relevant technology to citizens and micro/small business owners that couldn't otherwise afford to own a PC; (iv) **Shared PCs**: These can provide entire communities with affordable access to technology and information through telecenters, Internet cafés, libraries, and schools. Particularly in rural areas, Microsoft is working to find ways to maximize technology access and guide sustainable and scalable approaches to telecenter development; (v) **Windows MultiPoint technology**: It enables collaborative learning in the classroom from a single computer. The multiple mice with unique cursors help shift students from passive to active learning.

Leveraging Information Technology to Align with New Paradigm in Learning and Training

Mr. Satish Kaushal

Country Head, Government. & Education, IBM India

We have already started realizing the role of Information Technology in business transformation, delivery of Government services and education content. The internet has a great impact on the future education delivery and training. Mobile learning and delivering content on different form factors that are connected to the net is fast changing the paradigm of learning. Education institutions will be connected to the different networks and will have spaces and places that support collaborative, self-directed learning. The core curriculum will provide the basics that everyone needs, and teachers and learners will be given 'white spaces' to develop their potential. Students will become authors of content in an environment. There will be a seamless transition between all phases of education and students will monitor their own learning pathways through their learning portfolios (or learning passports). Learning will be collaborative, serious games will be used for teaching and learning, and technology will support every learner's pace and style of learning with teachers acting as coaches and mentors. Teachers will orchestrate all aspects of the learning environment, supporting students in finding the best way to learn and helping them to develop their knowledge skills and understanding to the best of their abilities. Learners will be able to walk into jobs well prepared and willing to continue their learning trajectory. They will be able to make a valuable contribution to society as they have been prepared with relevant skills through an education system that matches the needs of the world in which they live, and modeled though web tools throughout their formal studies. This presentation is on what IGNOU needs to do to embrace and align with the shift in learning requirements.

Microsoft Digital Literacy Program

Mr. Vineet Garg

Microsoft India

Microsoft is conducting a pilot study for its digital literacy program to understand the effectiveness of eLearning content in rural areas through shared access centers. The talk covers the background, objectives and scope of the pilot, along with an update on its progress. It also discusses the issues of developing affordable, relevant and accessible solutions, need, challenges, solution, learnings and the way forward.

Multi Modal Methods for Delivering Learner Centric Training

Mr. Sanjeev Bhamre

Regional Head L&D, Tata Consultancy Services Limited, Delhi

One of the stiffest challenge in delivering learner centric training is to achieve the right balance between the multiple learning objectives, differing learning styles of participants and the cost involved in delivering the content. For an organization that is knowledge centric, comprising of more than hundred thousand employees, and spread over 40 different locations, achieving this balance is even more difficult. This presentation focuses on the different practices that are being utilised by a software organization, Tata Consultancy Services Limited. This talk addresses the different scenarios encountered in distance learning that share similar characteristics: huge student population based at remote centers, centralised evaluation, and students targeting different proficiency.

Mobile Television: Technology Applications and Challenges

Prof. Manohar Lal

Director, School of Computer and Information Sciences, IGNOU

Mobile Television (MTV) enhances the potential of (stationary) TV of transmitting and receiving contents in the form of visual images of moving and stationary objects, generally combined with accompanying sound with the additional capability of the contents being received through hand-held devices. The effective realization of the technology for the purpose presents a number of technological challenges for the designers and developers of MTV and has the potential of opening a floodgate of new applications, particularly to the fields of entertainment and education. In this paper, an overview of the state-of-art MTV technology, the possible challenges in its effective realization and possible future new applications is discussed.

National Open and Distance Learner's Library and Information Network[NODLINET]: Quality Management for Distance Learners

Mr. Sudhir Kumar Arora

University Librarian & Coordinator, NODLINET, IGNOU

Existing Library and Information set up has limitations in ODL system with regard to the library facilities, printed information resources, infrastructure, space, storage, ICT provisioning and staff. Due to resource constraints and location in far flung areas, the students in the distance learning institutions do not have access to the same kind of library services as available to the campus based learners. In the ODL system, the applications of ICT hold great potential to meet the challenge of bridging the gap between the libraries and the students at home, work place or anywhere. The National Open and Distance Learners' Library & Information Network (NODLINET) has been established at IGNOU with the aim to create an integrated e-platform for digitization of scattered e-resources to provide access to the target beneficiaries. NODLINET also plans to provide accredited standards and guidelines for the establishment of distance learning library facilities and assist in their set-up of automation, building digital libraries, etc. The Network would assess the content requirement of ODL system and further establish linkages with other national library networks so as to strengthen information resources for ODL system by sharing mechanism. The major activity components are (i) strengthening the ODL library setup i.e. empowering participating institutions, (ii) CERDOL (Consortium of E-Resources for Open & Distance Libraries) -E-Resources, (iii) Digitized content, (iv) Linkage with other networks, (v) Web Portal with access management and authentication, (vi) Integrated platform for library related and other diversified library related services as E-Library, and (vii) System integration.

Innovations in Instructional Design of CCDP

Prof. Ajit Kumar

School of Engineering Technology, IGNOU

The Certificate in Craft and Design (Pottery) programme and its print and video materials have been designed and developed for the rural artisans, unemployed rural youth and interested persons in pottery. This programme aims to remove the shortcomings of the artisans and enhance their socio-economic status. The goal of the programme is to develop and upgrade the various required skills and knowledge to learners, which will help them in getting self employment, improving their craft business, empowerment and providing social status to the rural artisans and creating interest of youth in the craft. The materials focus on the four types of required skills and related knowledge for the artisans in India, which are (i) Technical (Pottery) skills, (ii) Design skills, (iii) Marketing skills and (iv) Communication skills. The outstanding features and elements used in the design of materials for increasing interactivity and ease in teaching-learning for the diverse learner groups contain self instructional materials (materials are pictorial, in small steps, in story form, in interactive dialogue, in simple language, and contain observation tables format, self assessment questions with answers provided at the end, exercises and tasks etc.), video films, slide presentations, radio counseling, tele counseling, home, lab and field practical. The programme has been found to be successful in transmitting the desired skills to the learners.

Trade Training Initiative for Motorcycle Technicians : A Case Study of CMSR Programme

Dr. Manoj Kulshrestha

*Project Coordinator (IH-MTCDP), School of Engineering and
Technology*

The IGNOU-HHML Motorcycle Technicians Competency Development Project (IH-MTCDP) is a collaborative initiative of Indira Gandhi National Open University (IGNOU) and Hero Honda Motors Ltd. (HHML), world's no 1 motorcycle manufacturing company, towards the competency based skill development training for the motorcycle technicians of the country. Under the project, a Certificate Programme in Motorcycle Service and Repair (CMSR) is on offer since April, 2006. Till now, around 2500 learners have already been trained and certified under this programme. The salient features of the programme include Use of ICT, Resource Sharing, Education-Work Linkage, Competency based Training, and Fulfilment of Corporate Social Responsibility (CSR). The innovative programme design of CMSR programme includes firstly, the theoretical and demonstrative training of learners at training centres and then attaching them to actual work place to practice what is learnt. In fact, it is a perfect example of education-work linkage in vocational education where industry is participating shoulder-to-shoulder in terms of arranging the hands-on job training of the learners in the actual work place. Here, the learners are exposed to real world situations and the challenges of the field. Under effective evaluation mechanism, the learners are continuously evaluated by their trainer during the hands-on training session apart from participating in Trade Test at the end of the programme.

Capacity Building of PRIs through a Multi-Mode Training Intervention

Prof. M. Aslam

Project Leader, IGNOU-MOPR-UNDP Project

The IGNOU in collaboration with the Ministry of Panchayati Raj and under the sponsorship of United Nations Development Programme (UNDP) undertook a project on '*Capacity Building of PRIs Through Multi-Mode Training Intervention*'. The project is initially expected to cover six northern states including **Bihar, Chhattisgarh, Haryana, Madhya Pradesh, Rajasthan and Uttrakhand**. The main objectives of the project are: i) Empowering and building capacities of elected members of Panchayats and development functionaries and ii) Institutionalizing mechanisms to strengthen capacity building. The project is an attempt at empowering Panchayats by a capacity building intervention through Multi-Mode Training Intervention. In terms of strategy to be adopted for implementation, it involved the following:

- The multi-media package earlier developed by IGNOU for training of elected members of Panchayat through distance mode to be updated/ modified in order to suit the immediate current requirements of training.

- Use of above updated multi-media package developed by the Panchayati Raj Project of IGNOU across six Hindi speaking states.
- Concurrently, establishing a network of State level institutions and NGOs.
- Assessing the adequacy and suitability of available study/training materials; (developed by state level institutions) and help develop a **state specific component through a balanced mix of distance learning and conventional training and help** adapt the materials to local requirements.
- Implementation of state specific capacity building intervention through distance mode for elected members of panchayats in the selected states through network of SIRD's and NGOs.
- Undertake hardware mapping in the six selected states with the help of state level institutions/NGOs involved in the project.
- Develop a model Orientation training programme for other development functionaries (particularly Panchayat Secretaries) to be implemented through conventional mode at State Institutes of Rural Development, and Panchayati Raj, and selected NGOs.

- Design and develop a Diploma Programme in Panchayat Level Development and Administration for development functionaries to be offered through distance mode of learning.
- Sensitization of field level administration particularly Block Development Officers through Symposium to be held in each state.

About the Collaborators

NCIDE, IGNOU

IGNOU, with international recognition and presence, has achieved the distinction of becoming the largest University in the world with 1.8 million students on its rolls. The mandate of the University is to reach large numbers and the unreached sections of the society with quality education and this calls for innovative solutions that need to be implemented for increasing system efficiency and quality.

The National Centre for Innovations in Distance Education (NCIDE) at IGNOU is mandated to promote and develop innovative mechanisms for the Open and Distance Learning (ODL) system. It acts as a resource centre for prototype development of innovative solutions through collaborations, employing the build-operate-transfer mechanism.

Microsoft India

Microsoft is a leading global player in the knowledge economy, based on information technology and is working to help shape the next generation of knowledge workers through technological solutions in learning. Microsoft has established Innovation Centres in India to provide customers and partners with a comprehensive set of programs and services. The goal of the centres is to foster innovation and growth in local software economies.

Tata Consultancy Services Limited (TCS)

Tata Consultancy Services Limited (TCS) is one of India's largest providers of information technology services. TCS actively seeks and applies the best possible solutions and methodologies for enterprises today, making sure to holistically factor in people, processes, and business issues. TCS along with its Innovation Labs has pioneered its own innovation network of partners for the successful development and commercialization of new ideas, technologies and best practices.

Foundation for Innovations and Technology Transfer (FITT), IIT Delhi

Foundation for Innovations and Technology Transfer (FITT) is an autonomous organization of IIT Delhi mandated to proactively market its Intellectual ware. FITT has been at the forefront in devising innovative ways to create linkages with business and community and to enable knowledge transfer for sustainable benefits. Being a premier technology provider, FITT has established networks with several end-users and potential collaborators for progressive research and development alliances and offers various interactive formats.

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