**4.3 On Developing the Open Learning System for Life Long Learning
(L3) and a Learning Society 12th Convocation
Address at Dr. B. R. Ambedkar Open University
-2003-**

(Source: ………………………………….)

Abstract

The address begins with the scenario of two worlds, one disappearing into the past and the other emerging on the horizon with the promise of Vasudhaiva Kutumbakam: information technology, mobile phones and networking are facilitating appearance of this new world; connecting "Anyone Anywhere Anytime" opens new vistas for planners and developers to create new and powerful tools of education that address poverty, illiteracy and backwardness.

In the context of globalization and localization, the new age of networked society requires new education and the development of new tools and techniques. Having successfully passed through the agrarian and industrial stages we have entered the third wave of transformation with ICT as its driving force for connecting people and customizing services. Educational networking and creating a knowledge grid is possible through ICT. The New Educational Paradigm links education with development of individuals, groups, institutions and society through using ICT that makes personalized mass education and self-actualization possible. The address ends with challenges in IT and concludes with a pointer to the tasks ahead – that of building learning communities. (By: LA)

Honorable Chancellor, Vice-Chancellor, Directors of Schools, Members of the Board of Management, Faculty, Staff Members and Graduates of the University and Ladies and Gentlemen:

It is my great honor and privilege to become a student of the First Open University of India; and I am grateful to the Chancellor, Vice-Chancellor and Authorities of the University for conferring the honorary Doctorate on me. This is no doubt one of the happiest days in my life and I will cherish it throughout of my life.

I am really fortunate to have quite a long association with this university since or rather before its establishment. I had participated in the International Symposium on the need for the Open University, organized by Professor Ram Reddy as the founder of the **Andhra Pradesh Open University.** I am also a frequent visitor to this university. In fact I have taken inspiration from this Open University and its founder, late **Professor G. Ram Reddy,** the doyen of the Indian Open Learning System. Professor Reddy was my dear friend, philosopher and guide and helped me. throughout my efforts in establishing Maharashtra Open University. So intimate was our friendship that we worked together at the national and international levels, and even met in UK a day before he left this world. It was he who made me move from Nashik to Delhi to head the Indira Gandhi National Open University (IGNOU) as its Vice-Chancellor. I sincerely express my gratitude to the authorities of **BRAOU** for strengthening my bonds with this university..

I am well aware of the honor this university has received recently in global ranking as one of the best ten mega open universities of the world. I compliment the Chancellor, Vice-Chancellor, authorities, faculty and staff members of this university for this great achievement. I take this opportunity to pay my respects to the memories of Professor Ram Reddy; and wish that the University Professor Reddy founded, develops and progresses to become a leading university not only in India but In the whole world; and leads in transforming education to make it appropriate to the emerging knowledge-based society.

1. CHANGING TIMES

Friends, we are passing through a great transformation. A transformation, which is changing humanity from its present form of industrial society to the new Information or Knowledge-based society. **Charles Dickens** had written in *A Tale of Two Cities* **in 1775:**

> "It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the season of light, it *was* the season of darkness, it was the epoch of belief, it was the epoch of incredulity, it *was* the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us...."

* Source : 12th Convocation Address Dr. B.R. Ambedkar Open University - 2003

The period then was very much like the present period. Today too, two worlds exist; one is disappearing in the past; and another is emerging on the horizon. I am an optimist and would work for the new world. As the name and nature suggests, Open University should welcome the new world and lead the change.

The computer, invented nearly six decades ago, and the Internet, getting used extensively since 1995, are changing the world; and are creating a networked global society. The dream of one

world, **'Vasudhaiva Kutumbakam'** could now be realized with the help of Information Communication Technologies (ICT). In fact the driving force behind the New Age is the Information Technology (IT), and is changing the way we live, work, entertain, communicate, market and carry out various individual and institutional activities and functions. The speed of change is really mind-boggling. In India at present, every month nearly one million mobile phone users are added to the number having this device. Such changes are not linear but exponential. By considering the fast increasing capabilities of mobile appliances like cell phones, decreasing cost of procuring and using them, and increasing diversity of services they offer, it is predicted that within ten years 80% of the Indian population will be using IT devices for communicating. Indian society is fast getting highly networked.

Networking activity has just started. The University Grants Commission has undertaken a task of networking all universities and colleges; and is creating electronic content or e-content for university courses. It is preparing a platform on which learning content could be deposited by any teacher **and** expert to make it accessible **to** any learner **anywhere** at anytime. The **Indian Space Research Organization (ISRO) is placing an Educational, Satellite (EduSat) In the sky within a year. It will enable all colleges and their classrooms to connect to any learner anywhere through broadband Internet** and can make DTH, Direct To Home possible. Open universities can now fulfill their dream of delivering education to learners at home and at workplaces. Wireless in Local Loops (WLL) and other recent developments are making high bandwidth available to all. All these will give access to the last person located at the remotest place and solve the *'last mile'* problem. Maharashtra Knowledge Corporation Limited (MKCL), a new organization, founded by the State Government and universities in Maharashtra, are developing software that will radically change the governance and management of the educational transactions. Availability of IT tools such as Learning Management System, Content Management System and Delivery Management System to manage teaching and learning of all learners in a paperless environment, will create the environment for e- education.

All these IT applications for networking, connecting and communicating with Anyone Anywhere Anytime are offering excellent opportunities to educationists, educational planners and developers, to design and develop systems of education, and create new paradigms of education; the paradigms that will address Indian problems of poverty, illiteracy and backwardness; the paradigms that will address the problems of **globalization** and **localization** and help in building a new Indian Society of the Information Age.

2. NEW AGE AND NEW EDUCATION
The new emerging society will **be** a **networked society,** connected through broadband Internet, which is itself a network of networks. Every institution and organization in a society will establish its own subnet, created to carry out its functions and activities. Institutions and individuals will be using **IT tools and techniques** for carrying out their functions and activities related to life and work.

♦ **Defining Role of Tools and Techniques**

One of the major requirements of the networked society is the **development of tools and techniques.** Tools are essential for carrying | out functions, and techniques essentially redefine functions. They are essential to evolve a new way of doing the function to achieve the same objectives. Hence they both evolve new paradigms, suitable to the needs and requirements of individuals, groups and communities.

In fact, the relationship between the nature of tools and the type of society that it permits and facilitates is very interesting. In the evolution of human societies, tools have played defining roles in creating communities and cultures of the age.

Human society has seen two major translations : one from tribal society **to agrarian society and** the other from agrarian society to industrial society.

The driving forces for transformation in each case are different; for the first transition, it is the Knowledge of nature about sowing seeds and growing plants and tools and techniques necessary for agriculture. The agrarian society used animal power for doing agriculture and ensuring its security. The second transition came up with the evolution and the use of automation and created an industrial society. Industrial society created different tools, which have centralized planning, production and management processes; and created mass production that helped in satisfying mass needs at low costs. The machine is the driving force of the industrial society; and centralization and mechanization are the processes that shape the socioeconomic processes. The education system of the industrial age has therefore helped in educating large numbers (mass education) and created manpower that is essential for building and serving industrial society.

The **third transformation** has begun since 1995, when extensive use of Internet accelerated development and growth of Information Technology. The Information Communication Technology (ICT) is the driving force for this transition, and is transforming rather, very rapidly, the ways of living and working. In all these changes now taking place in various processes in industrial society, one **key process** stands out uniquely; the convergence of communication technologies, integrating computing, tele communicating and broadcasting sciences. Development and progress in Information Technology (IT) has created global communication networks and generated globalization.

ICT not only enables to connect people and places, but also helps to customize services and products to the needs of individuals. This customization or **personalization** is achieved through the **Second- Generation Information Technologies** currently being developed.

♦ **Centralization and Localization**

Any network has two major components; global or **central** and **local,** identified on the basis of demand by regional / national / international societies and by local communities. The central facilities such as websites, servers, content etc are created by various participating institutions; whereas the local network is created to connect local people and their institutions. The **hub** and **spokes** model developed by **Dr. Swaminathan** in villages near Pondichery is a model of locally networked community and is useful to put on network all life and work related information and services needed locally.

♦ **Networking**

The **Educational Network** will connect universities and all related Institutions engaged in education and development at the central level. Each one will have its website, server, content and services; and will carve out its own subnet out of the bigger network. The local level network could be built around a local college / institution as a hub; and spokes will be linked to schools, **Community Learning and Information Centers (CLIC)** at the village level.

All these networks at local and central levels are to be managed to ensure information flows. The new grid architecture enables the creation of a **Knowledge Grid** that can help share information from any one server by all other servers. Any provider of education, training and learning services can push or pull information from any server depending on his or her needs and requirements. The **Knowledge Grid** will, therefore, help in sharing of content and services with all, and will make education accessible to anyone connected with the network.

The broadband Internet with grid network enables us to create educational programs that could:

- Make teaching and learning possible from anywhere, anytime,
- Link education and learning with life and work related processes and places,
- Create a National /Regional Grid network of educational content and services, which can flow in the network and support the processes of educating- learning, teaching and evaluating- anywhere, anytime; and
- Enable educators and educational institutions to create new paradigms of education dependent on various developmental processes and models.

The process essentially generated by these types of changes would lead to new reorganization and also de-institutionalization of existing 20th century institutions.

Tools and techniques of the Information Age have inherent facilities and capabilities to enable planners and designers to build new, transparent, accountable and efficient processes, not only for educating but also for various social activities and functions.

3. NEW EDUCATIONAL PARADIGMS

In the larger context, education **is** always linked **with the development** of Individuals, groups, institutions and society. **However, in the existing** educational programs, the linkages are often not direct. New paradigms **of** education should make this developmental link direct and visible. Besides, ICT should be able to address the larger issues and concerns listed below.

♦ **Issues and Concerns**

(i) How can we create an **open learning system for all,** particularly for including all those who are disadvantaged and unreached? -

(ii) Current developmental processes have created disparities and divides such as the rich - poor, the rural -urban, and now the digital divide -with IT haves and IT have-nots. How can we **bridge digital and other divides?**

(iii) The existing educational system tries to give only access to the learners. It does not ensure success, and there are failures in the system. How can we **ensure access with the success of each one?**

(iv) Many graduates coming out of the system do not find employment; and often are unemployable. How can we **link education with employment and development** so that a student does not face this problem.

(v) Globalization has created competition for quality, access and cost. How can we compete with foreign educational providers who are marketing their education in India, and enable **weaker Indian institutions to raise the quality and standards** of their offerings?

(vi) Education these days has become a marketable commodity. This is rather contrary to the Indian culture. **What type of educational models could help in 'marketing' education** on the basis of equity and justice in consonance with Indian values?

Many of these issues are quite complex and will need policy and program support from society and the state. We will however consider the possibilities of creating an educational framework that could possibly address these issues.

The application of ICT to the basic educational processes such as teaching, learning, evaluating and managing leads to a new form of education, called **e-Education (electronic education).** Evolving e-education, which will address the issues mentioned above, is the goal of the New Education, and a challenge for the Open Learning System.

The ODL of the Information Age is based on extensive use of ICT and will help to evolve convergence of formal, non-formal and Informal modes of education. The system will be based on e-education, and will require its own infrastructure and tools to promote mass-personalized education in an open environment. The goal and objects of the Open Learning System should be the development of new educational models and appropriate infrastructure suitable for the knowledge-based society.

♦ **Educational Models**

In Agrarian Age, education was very much at the feet of Guru in the Ashram Schools (Gurukul). It was a very **personalized education;** and content, level of achievement and objectives of learning were different for different learners. The teacher decided methods of teaching and learning; and learners received knowledge from Guru through oral and personal communication. The education was localized, dependent on the teacher's expertise available locally; and students had to move to other places in search of the proper Guru and experts. The same approach continued during the early centuries of the second millennium.

However, with the emergence of industrial society, when more manpower was needed in various trades, production and service centers, educational institutions started admitting more students to

fulfill the needs of the industrial society. The form of education changed from personalized education to **mass education;** and a mechanism of a classroom was evolved in which a single teacher instructed a large number of students.

Classroom based education introduced new methods and practices such as a common syllabus, uniform examinations, and common achievement levels for passing and grading. They are usually decided by the teachers to suit the economy and convenience of the educational system. The principle is: **'One size fits all',** and the system is often described as a **'Factory Model'.**

The system is therefore **teacher-centric**. The education is localized in the sense that it is available at the local and nearby institutions with all its advantages and disadvantages. Students have to move to other institutions, and even go abroad for further and higher education. The unit cost of higher education is quite high; since the major expenditure is on salaries/honoraria of teachers and cost of infrastructure facilities. As education and higher income in most cases are linked, there is a high pressure in developing societies on places in educational institutions.

♦ New Paradigm: Personalized Mass Education
Dr. Chltra Nalk, a renowned educationist and former Member of the Planning Commission, has raised a very interesting question: "Do we accept the industrial metaphor of **'input-process-output'** in which the learner is treated as a chunk of the raw material to be processed into uniform bits of product, or do we agree to consider education as a **'blossoming out' process** in which an organism grows to its full capacity because of its symbiotic relationship with its environment?"

The industrial society model may be appropriate to the Industrial Society, which is inherently an exploitative system, exploiting workers by treating them as cogs in the machine, and society for selling the products and services created by industry for the benefits of the producers. The **'blossoming out'** or **self-actuallzation model** is closer to the model of agrarian society; and is not now replicable. The supportive environmental nature then available for all development and growth is not available now, due to so much of exploitation and destruction of nature and social transformation that has taken place during the last millennium or more. However, creating a new environment that would give freedom to individuals and communities to think and act, to pursue self- actualization activities in accordance with one's own or community ideas and ideals is certainly possible.

♦ Developmental Education

Developmental education essentially links education directly with development, and its evaluation is based on participation and achievement of development. In a networked educational system, a learner can be located at a workplace near his/her residence; and the dominant process of developmental education would be working, learning and developing continuously. This mode of education is therefore most suitable for life-long learning and learning societies for their continuous development and progress.

By developing and employing personalization technologies, it is possible to create a mass personalized e-education system based on developmental education. By using ICT, it is therefore essential to develop a learning and developing environment, for serving individuals,

groups, institutions and communities for achieving their developmental goals. Such a system of education has to be based on the process of empowering people, their institutions and communities. The essential tools for empowering could be the **mobilization technologies** that could help groups and communities to organize their functions and activities efficiently and effectively. Such a social developmental approach is **very** essential **for** developing societies like the Indian society.

With the initiative of UGC and COL, a platform for content storage is getting developed. It could form the basis for Indian Knowledge Grid and will enable experts and teachers to create small units of content called granules, which are the smallest units of instruction. The granules could be put in a database by attaching multiple tags so that the content becomes reusable in different contexts, for different purposes and in different processes of learning. Similarly personalized technologies are getting developed which will allow a '360 degree view' of a student to a teacher.

This type of meta-databases with personalization technologies would enable a teacher to offer a personalized curriculum to suit the needs and requirements of a student; and prescribe the learning path to achieve his/ her goals of learning. This is offering the IT driven scenario not possible earlier, and can offer just-in-time education to learners who want to combine learning and working. In a way IT makes it possible to offer not only access but also success to every learner.

♦ **Education For All**

The Open Learning System (OLS) has the challenge of evolving new paradigms of Education for All by using mass personalization. The OLS , should, therefore,

(i) **Expand coverage** of learners so as to include all in the society.
(ii) **Network** all the educational institutions, social and industrial organizations and institutions along with resources by promoting private and public partnership.
(iii) **Promote Life-long-learning and Learning Communities** by organizing Special Interest Groups / Swadhyaya and Prayog Pariwar / as continuously learning groups and their communities.
(iv) **Empower groups and communities** economically, socially, culturally and politically.

In the Indian context, illiteracy becomes a great hurdle in extending education to all. In the new scenario, however, the less educated and even illiterate could be educated by using the audio and video media. The print medium, though otherwise helpful, need not be the only medium of educating. This is proved to be right by a success story of the skill training of tannery workers in Chennai by IGNOU.

The Open Learning System already created through open schools / universities in the country is best suited for the leadership of this networking and mobilization, since they have:

(i) **Friendliness for adopting ICT**
(ii) **Openness to change**
(iii) **Integrative skills** for mobilizing groups and organizations, and

(iv) **Pedagogically well-designed print materials,** which could be easily converted into e-content. The open universities should take a lead in developing new organizations that will lead the transformation towards e- Education for the New Information Age.

♦ **National and Regional Infrastructure**

The e-Education System requires the following **framework and infrastructure:**

(i) **Network** with the latest hardware and technologies along **with broadband connectivity and grid architecture** giving network access to anyone, anywhere, anytime.

(ii) **Software tools and techniques** that enable creation of databases and information flows, offer facilities to learners, teachers and institutions to receive/give personalized education on a mass scale.

(iii) **Content in e-formats** on a **knowledge grid** that enables teachers and students get a personalized curriculum of high quality, relevance and utility.

(iv) **Educational delivery system** that ensures quality and developmental relevance of educational offerings (Developmental Education) for individuals, institutions and the community.

(v) **Quality Assurance and Certification Mechanism** to maintain competitively high and acceptable standards at national and international levels.

The Framework given above can serve as a national and regional infrastructure to support educational processes of any provider institution, individual and organization in India. This also helps providers of education to design their content and delivery channels through the e-Education Framework with distinctive models of development.

A new initiative in the form of Virtual Universities is now getting developed. The Virtual University is essentially a consortium of Institutions which come together by pooling their best strengths to offer the best quality education to the learners. It is a new way for weaker Institutions to survive in cooperation while facing global competitiveness. Four Virtual Universities are coming up in India: and the initiative has already been taken for their

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establishment by ICRISAT, Hyderabad, MS Swaminathan Research Foundation, Chennai, Department of Agriculture of Government of Maharashtra, and Maharashtra Knowledge Corporation.They are, however at the initial stages of development.

4. CHALLENGES IN CREATING LEARNING COMMUNITIES

The information society creates omnipresence of information throughout the networks. Education has therefore, to cultivate skills and competencies in using IT tools and techniques in the networked, globalised and localized context with a view to creating and nurturing innovativeness and entrepreneurship to convert knowledge into wealth. Education has to help in identifying and creating work and employment opportunities that would lead to new types of self-employment opportunities such as knowledge workers, information service providers, tools/technique developers, process/ system software designers, developers, implementers and leaders in transformation processes.

Teachers and educational managers have to play different roles in the knowledge-based society. They will have the opportunity of developing new systems, which should be accountable and transparent, allow democratic participation, and empower people through decentralization and participatory decision-making. Through these activities they can offer academic leadership in social and economic changes. This is a process of creating and shaping an information society and a continually developing economy. The roles of teachers are quite different; they will have to participate in the development process and lead the change, while offering learning services to the students. Teachers are the catalysts and participants in processes of learning, teaching, working and developing together. In the learning society every learner is going to be a consumer of knowledge as well as a producer of knowledge. Teachers, and for that matter every learner, will have to acquire that role of producer and consumer (prosumer) while participating in the developmental processes. They, in turn, would be promoters of various socially relevant models of development.

The models of these types of developmental education must rest on the four pillars often recommended by Dr. Swaminathan:

(i) Productivity,
(ii) Quality
(iii) Affordabillty, and
(iv) Sustalnability

Development of such models is the main challenge before the developmental education. Further, the current models of development are often exploitative, give disproportionately high benefit to a few, and the majority remains poor and marginalized. Creation of a mode!, that gives freedom and recognition to individual initiative and simultaneously enables 'equitable and just' sharing with others, is a challenge before communities and societies. Evolving new philosophies and practices, which were followed in large joint Indian families in an older context, is a great task. Ultimately, the new Indian society has to be founded on the basic values enshrined in the Indian Constitution offering

(i) Liberty by giving freedom and autonomy to individuals, groups and communities.
(ii) Equality in sharing rights and responsibilities as well as benefits.
(iii) Fraternity in living together, and
(iv) Justice to all.

Vested interests at local and global level may not allow all these changes and sharing so easily. Teachers along with their learners can participate in real development processes, and mobilize development-centric groups and communities. After all education is itself a developmental process. Using the developmental processes for social transformation or total revolution becomes easier in the knowledge society, since they are supported by the intrinsic nature of ICT. Information Technology primarily generates

(i) Globalization

(ii) Decentralization and Localization
(iii) Access and Personalization
(iv) Transparency and openness.

These processes and values could be built in the SIGs and Learning Communities; and the participatory democratic system of decision-making could be promoted. After all, the new society should be open and dynamically changing to achieve peacefully coexisting communities and societies, blooming with different shapes, sizes, colors and scents.

This Is a rare opportunity of shaping a new society. Teachers and education systems should play a center-stage role in this transformation process. Dr. Babasaheb Ambedkar and Sri Jayaprakash Narayan, who had the life mission of achieving total transformation and total revolution, have advocated a path for change based on:

(i) Educating,
(ii) Organizing,
(iii) Creating, and
(iv) Agitating,

The new educational system aiming to create a new and just society will have to play a leadership role in transformation.

I consider that educating means creating futures; futures of learners and youth. Every teacher should be a dreamer, and every educational institution must have a dream. Let the Open Learning System led by Open Universities in India take up this challenge, and help create new paradigms of Education For All and lead transformation for creating a new knowledge- based society based on equity and justice.

CONGRATULATIONS TO THE NEW GRADUATES

Dear graduates, you have today received degrees for your educational achievements from BRAOU. Many of you are already busy in the world of work. Being mature students, I am sure, you might have ideas about using and applying the education you have received in this university. Learning, however, does not stop here. Now starts your life-long-learning. You are going to face the challenges of the Information Society. Many of our experiences and practices belonging to the 20lh century may not be of much use to you in this 21s' century. You have to grow continuously through your learning and personal development, and offer leadership in developmental activities not only at the local level but also at the national and international level.

Dear graduates, you have many challenges and opportunities before you. I am sure, skills, competencies and functionalities you have acquired, and the knowledge you earned in this university, will guide you in your future career and development.

Let me congratulate you on your graduation, and wish you all the best success in your life and career.