4.7 The online Bachelor of e-Education: A Teacher Education Programme for Educational Transformation
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Abstract

The world is shrinking and changing into a new 'Information or Knowledge Society'. Education is at the centre of this change; hence it should take into account the emerging scenarios of the future. In this context teacher needs to be transformed first through capacity building in the latest pedagogies. The e-B.Ed programme of the I-Consent uses the tech-mode for training such reflective teachers who understand technology and can use it to teach effectively. It comprises six role-based courses, field-based assignments and a major project work. Its unique features are many, some of which include e-learning, constructivist and capability building approach, and situated learning design. Completion of the first pilot batch of the programme reveals the transformative impact the programme has had on the students, their institutions and the communities they served. (By: LA)

The Information Communication Technology is creating a connected society- the society in which people, their living and working places and their organizations are connected anytime anywhere. This connectedness has created completely new processes not known in 20th or earlier centuries. Essentially we are in a transitional stage of changing from Industrial Society towards a new society- Information or Knowledge Society. It is expected that all the living, working, communication and organizing processes will undergo radical changes with the emergence of knowledge based society. Education being a sub-system of the larger social system has to undergo similar changes. Education system has also to carry out its traditional role of shaping the futures- supporting and enabling transformations in the society and help the emergence of new knowledge based society with a new global human being.

The new age processes used by the connected society that have appeared so far are the ones created by communication technology such as digitization, virtualization and mass-personalization or group customization; as also those created by connected society such as global standards for communicating and virtually working together, open resource movement, self-organizing (blogs) and mass collaborative working (Wiki processes). The omnipresence of knowledge and development resources in the connected society are generating new process of co-creation and prosumers (producers + consumers). Gradually all the society will be transformed and each one in the new society will be playing multiple roles in the new society.

The education system has therefore to develop its models of education that would take into account the emerging future scenario of connected society and create virtual or cyber infrastructure that would support development and transformation processes towards the future knowledge society. Scientists are proposing development of cyberinfrastructure for learning for development for the nest 200 years (the *Future Now*). We may limit our search of new models and system of education that should last at least for one generation (20-25 years-the *Next Now*). The task is to develop a new paradigm of education with goals of developing and transforming existing society into a new Knowledge Society, adopt / adapt new processes of Information Society- the known and unknown ones – to support life-long-learning (L3), learning for sustainable development(L4SD), prosumer development for their co-creation.

We approach the issue by creating a program and its organisation with a goal of Quality Education For All anywhere anytime by creating a future scenario based program on e-platform by solving integratively the following **six parameters** of *Quality*, *Quantity, Equality, Speed, Organization and Governance.* The solution has to be based on future scenario of the connected society and should overcome the discontinuity encountered during the transition from the industrial to the informational age when old processes disappear and new processes takeover.

The problem is approached through:

1. Use of new processes of Information Society by starting from the existing ones and putting them on e-platform available with MKCL.
2. Develop Large Techno-Social Systems and e-infrastructure for open collaborative learning for developing.
3. Promote development of co-creation and prosumers starting with public-private-community partnership with win-win approach and moving towards co-creation by prosumers.
4. Develop organisation on shared goals, founding principles of the program and core values by developing L-groups, L-communities and interest based consortia and their corporations.
5. Starting with Tech-MODE system make transition to the Transmode system of education based on open learning and developing resources.
6. Transform existing e-platform into cyberinfrastructure that supports participative and cooperative working and program offering based on performance excellence model.

Based on these approaches, we, the group of institutions coming under the umbrella of Indian Consortium of Educational Transformation (I-CONSENT) are designing and deploying two programs linked to each other:

1. e-B. Ed for Learning for Development
2. Virtual School and Learning Homes (VSLH) (www.mkcl.org/vslh)

The VSLH will be developed as the practicing and working places for e-B. Ed students and teachers.

A case study of

The Online Bachelor of e-Education:
A Teacher Education Program for Educational Transformation

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Preparing for the future

The world is fast transforming in to a large global connected community with ever-increasing outreach of information and communications technology (ICT). ICT is pervading all walks of life, from personal lives to common concerns like global warming. This is the transition of human race from conventional thinking based on yesterday's experiences to things to come tomorrow and far beyond. We are changing from an industrial society towards a new society -

Information or Knowledge Society. Education, as an accepted tool of social change and reconstruction, is in the center of this accelerated process of social and cultural change. It has to help in shaping the futures- supporting and enabling transformations in the society and help in the emergence of new knowledge based society.

The education system has therefore to develop its models of education that would take into account the emerging future scenario of connected societies and create a virtual or cyber infrastructure that would support development and transformation processes towards the future knowledge society. Such a system of education would be a trans-mode education with cyber infrastructure and with connected communities of students and teachers with appropriate competencies and capabilities to create a new knowledge society.

Our task is to develop a new paradigm of education with goals of developing and transforming existing society into a new Knowledge Society, adopt and adapt new processes of Information Society- the known and unknown ones – to support life-long-learning (L3), learning for sustainable development (L4SD), "prosumer" development for their co-creation.

The teacher is pivotal in supporting such educational transformation. Only the teacher can develop those skills and capabilities required for building a knowledge society. Therefore, the teacher needs to be transformed first by orienting him in the latest pedagogies and empowering them to develop relevant competencies and capabilities among learners. The goal is to offer Quality School Education for All (QSEFA), as the world has accepted it, next to the survival goals (MDGs).

In the emerging Information Society, to achieve this objective of offering Quality School Education for All (QSEFA) for the development of huge populace, based on future scenario, the education system will have perhaps to meet the six parameters viz. Quality, Quantity, Equality, Speed, Organization and Governance.

A solution to such a problem is not found using the 20th century approaches of the society suffering from poverty, ignorance, divides and underdevelopment. Logically, the solution has to be based on future scenario of the connected society and should overcome the discontinuity encountered during the transition from the industrial to the informational age when old processes disappear and new processes takeover. That is possible only with the use of ICT platform for e-education and the new processes of Information Age of 21st century, which will enable us to create our own approaches and socio-technological solutions to our problems.

"Next now" and "Future now"

The whole world is striving to create such cyber infrastructure for next now (next 20-25 years) for knowing, inventing and using innovations and creativity for more wealth generation. Efforts are also afoot to create open infrastructure for future now (next 100-200 years) that will enable people all over the world to participate and partner, as well as to work, collaborate, create and share in the processes of development and transformation. This is a total paradigm shift in the education system.

New Age Processes for transformation

- Technology generated: Digitization, virtualization and mass personalization and customization
- Socially generated: Blogs or self–organization, mass working together, meta-databases, global standards, etc
- Transformation created Prosumers (Producers + Consumers) and their co-creation processes for global & local marketing.

Large numbers

The teacher has to play very important role in this transformation process. But training and re-training of about 23.11 hundred thousands teachers for this change over in 7.68 hundred Thousands primary schools with 131.69 million students, as well as 14.39 hundred thousands teachers in 2.75 hundred thousands upper primary schools with 51.67 million students, and about 10.1 hundred thousands secondary teachers in more than 1 hundred thousand secondary schools in india, is a herculean task at any given time and cannot be achieved with the existing training facility within reasonable timeframe for the entire country.**

The B. e-Ed. Program of I-CONSENT

Information Communication Technologies and communication network for teachers' training through Technology Mediated Open and Distance Education (Tech-MODE) can offer some help in this respect. Therefore, if the schools of the future were going to make use of ICT and e-learning, the question arises- Do we have our teachers trained to effectively teach in these ICT-rich schools of the future? What kind of training do these teachers of the future need? Clearly the conventional teachers' education curriculum of the past would not be adequate. We have to rethink about our teacher education program and this is what led to the creation of bachelor's degree program in e-education.

One such teacher education program is developed and being piloted by I-CONSENT- a consortium of about 50 people from six universities like Pune, Mumbai, Delhi, Shrimati Nathibai Damoder Thakercy (SNDT) University, Kolhapur Sjivaji University, Yashwantrao Chavan Maharashtra Open University (YCMOU)-the state open university; Non Governmental Organizations like Indian Institute of Education, Homi Bhabha Center for Science Education-Tata Institute of Fundamental Research; Corporate Bodies like Maharashtra Knowledge Corporation Limited-state government owned corporation; State Teacher organizations like Marathi Vidnyan Parishad; State and National government agencies like Maharashtra State Council for Educational Research and Training (MSCERT), National Assessment and Accreditation Council(NAAC), National Council for Teacher Education (NCTE) and international organizations like Commonwealth of Learning (COL), as well as, several individuals and experts.

There are two things that are unique and innovative about this teacher education program. First, its context is e-education. It seeks to prepare teachers who will be e-educators, that is, teachers who understand technology and who can make use of technology to teach effectively. Second, it is delivered online and with the help of ICT, and as such, in itself is an e-learning program

Development: Co-operative, Collaborative and Consortium Venture

Under the auspices of I-CONSENT and under the flagship of COL, about 40 senior educators and experts from these associated Universities and institutions worked for more than two years in several workshops, group meetings and discussions, as well as, in online discussions to develop the program structure and courses. The YCMOU: a state Open University is a nodal agency for this program and technical support and an e-platform is provided by the Maharashtra Knowledge Corporation Ltd. (MKCL).

This unique program comprises six role based courses, field based assignments and a major project work relevant to the development of locales. The students will be studying the various courses for two years which will enable them to perform various roles of an e-teacher, namely:

I.   Nurturer of e-Culture
II.   Teacher as change agent and Net worker
III. e-Learning Specialist
IV.   e-Learning Resources Developer
V.   e-Teaching-learning Strategist
VI.   e-Researcher and Evaluator

The pilot program is scheduled to be launched in the first week of April 2008 in Pune, Maharashtra state, by the CEO and President of COL, Sir John Daniel.

Purpose

The purpose of the e-B.Ed. program is to provide on-line, packaged ICT based alternative teacher preparation program to empower professionals/teachers to manage the development centric educational system, involving e-learning, which is accessible to any learner, anywhere, any time.

Distinguishing features of e-B. Ed program

Tech-MODE:

Technology Mediated Open and Distance Education (Tech-MODE) is a technology based integrated system for e-B.Ed. program. It uses three basic processes:

- Virtualization in which ICT links teachers, learners, trainers, experts, mentors, providers, schools and other work places, integrating living learning and working together, creating Distributed Classroom and Virtual Campus.

- Digitization that enables information communication with use of Internet - and other technologies for working together and sharing learning and knowledge for sustainable development.
- Customization in the form of mass-personalization and group customization; Localization to create relevance and learning environment for creativity, innovation and entrepreneurship essential for knowledge society.

The courses are role based and focused on the context and the community within which these teachers will operate.

Development of content-a continuous process:

The participatory, collaborative approach to development of the courses by I-CONSENT partners has ensured the availability of the best content and the best services available to maintain Quality. The course contents, both static and dynamic, and learning and teaching resources i.e. Open Educational Resources (OER) are developed for creating distributed teaching and learning system, and monitoring and updating the courses will be a continuous and all the time on-going process. Use of Learning Content Management System (LCMS) developed by MKCL enables the course writers to modify their courses on-line

Role based contextual course content:

Courses are based on the roles the teacher will be expected to play. Once the role is decided, the competencies required for that role are identified, they are further specified in terms of learning outcomes, learning situation related to the role is prepared, focused role is assigned, learning activities prescribed, learning resources indicated, assessment of the learning activities is done and the scenario continues till the role is completely mastered and competencies developed. Then the field assignment is given.

The practical work and the assignments are open ended, field related, providing for variety of practical applications for development-self, as well as, situation and the individuals are free to work on any application, resulting in, some new products or services or applications.

Paradigm shift :

It is a total paradigm shift from old to new technologies, from static content to dynamic learning resources based on OER, from print to multimedia, from local storage and access to distributed networked storage at all providers/servers, from limited local access to unlimited access to any one/anywhere/anytime, from no quality control to centralized quality assessment mechanism, from non-replicating to replicating knowledge resources and from single user to multiple user resources.

Networked and distributed education:

The curriculum transaction in this program is on-line through Tech-MODE, providing the best possible interactivity, core to any teacher education program, through Audio-Graphic and Video Conferencing facilities reaching out to the schools and workplaces and managing interactivities amongst users through communication technologies.

New learning processes:

This e-Teacher Education Program is "perform type" rather than "inform type" and would equip the teacher to promote:

1. Learning to Learn-Self study
2. Learning by doing-performance based
3. Learning through distributed classroom
4. Personalized learning supported by e-learning resources
5. Group learning and developing-L3 groups of learners and teachers
6. Learning by leading student activity groups - Swadhyay Parivar
7. Learning through experimenting - Prayog Parivar.

This is an integration of self-study, based on individual needs and choices, group-learning in the context through interaction with media, men, machines, peers and members of other L3 groups and resources available on the Internet resulting in the better skilled teacher. Mobilizing teachers' expertise and organizations and institutions to form learning groups and Prayog Parivar for continuous learning for development is a unique feature of this program

Deployment:

Through the study centers and access centers organized with the help of associate universities and organizations and network of more than 3000 franchisees of MKCL, local mentors and national and International experts on the panel as central resource the program is being deployed using the e-platform of MKCL and all the advanced technology and expertise at MKCL e.g., Learning Content Management System (LCMS), CDN, Distributed classrooms conducted at several study centers, etc.

Delivery:

The delivery of the courses is on-line through distributed classroom, PowerPoint and multi-media presentations and through supplementary learning material in multiple formats, print-non-print, including lectures, audio-video cassettes, CDs, journals and textbooks, e-books, readings on net/websites and discussion etc. with a very powerful and continuous, virtual, as well as, real time student support system.

Reflective assessment and evaluation:

Reflecting through a continuous process of self-evaluation and self-learning and modifying the strategy to get the best possible results/output out of the system, will be a concurrent activity along with learning. Evaluation would be a continuous process with a freedom to the student to acquire the required number of credit points for getting his degree/diploma. Both, formative, as well as, summative evaluation is being used, on-line. Final assessment for grading would be on the basis of the portfolio of the student's performance on all the course activities including field related assignments and major project , to be presented by him in the evaluation workshop to a group of external experts. There is a provision for improving the performance at a later stage and there by level of the degree. No written examination at the end of the program will be conducted.

After successful completion of the program and acquiring required number of CPs, YCMOU will confer a Degree of B. Ed. (e-Education)

Accreditation

Application for accreditation to this program as innovative program is pending with National Council for Teacher Education (NCTE) and the State Government.

R & D activities:

In the Tech-MODE, a strong focus is on developing appropriate and successful processes of training, educating, learning, managing and developing. The R&D is greatly helped by the networked system, by recorded interactivities and by continuous feedback that could be obtained from all the players in the Networked System. This is an enormous information resource of raw data, which would be periodically analyzed for actionable knowledge, for learning lessons and for integrating lessons into the system for improving it. This would be planned and purposeful exercise, and hence systemic research will be linked with various processes of development. It will also help improve achievement, as well as, continuous updating of the contents and the OERs for the program

Transforming training and education for sustainable development:

The output and outcome of the program would be measured in terms of the development and the sustainability achieved. The three Situates/Locales for development i.e. Class, School and Community are contemplated in the program

New Organizational structures:

Three types of organizations are involved in development and deployment of this unique and innovative program:

A. I-Consent with partnership management of all working jointly to offer the courses.
B. Provider organizations for deployment and support service organizations like MKCL, YCMOU, HBCSE, Study Centers, Network of access centers etc

C. Community based user organizations formed by the users or learners, depending on the nature of use of the provider services for their development such as Virtual school and Learning Home organizations,

Career development paths:

A product of this program, a graduate, or a post-graduate with e-B. Ed. degree will have following career development paths available:

1. Teacher and/or Trainer in the following educational settings:

   o   e-School or e-college for e-learning
   o   Formal school or college or university
   o   Industrial training or social/community education and extension
   o   Corporate sector (as trainer, human resource developer)

2. Instructional system and materials designer
3. Multimedia instructional materials developer/producer
4. e-Education and e-extension system manager

Acknowledgement

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