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## **RESOURCE BASED LEARNING MODEL: I-CONSENT INITIATIVE IN INDIA**

By

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### **RATIONALE**

After successful implementation of District Primary Education Program (DPEP) – now Sarva Shiksha Abhiyan (SSA) for UEE, Government of India is now considering universalisation of secondary education also. It is expected that within a decade or two nearly 100% students will progress up to X standard and very high proportion of them, up to XII standard of schooling. Quality of education and its equitable access to such a large number (quantity) for inclusive policies of India (equality) are the major challenges in this expansion. Open and Flexible Distance Learning (OFDL) is being emphasized essentially to provide a solution to this illusive triangle of Quality, Quantity and Equality to provide Quality Education for All (QE4A).

This triangle is partly solved in the form of access, quality and affordable cost through good quality Self-Instructional Materials (SIMs) created by Open Schools and Universities in India. But only open resources and information do not create a system of Education. It needs pedagogies, methodologies and pathways of learning also along with their linkages with individual and collective development. Therefore, integration of such material with mainstream learning is a major issue today. The Indian Consortium for Educational Transformation (I-CONSENT) is working on this riddle for several years.

### **I-CONSENT**

Indian Consortium for Educational Transformation (I-CONSENT), was created, as a platform to work collectively for educational transformation through Technology Mediated Open and Distance Education (Tech-MODE), for development and was established as a non-government non-profit organization, in 2005 with the initiative of Ram Takwale, former Vice-Chancellor of IGNOU, Mohan Menon, Education Specialist and Som Naidu, Educational Consultant from Commonwealth of Learning (COL) and Martand Deshmukh, Senior Education Consultant, University of Mumbai, & former Director, DEP-DPEP, IGNOU, a World Bank-MHRD project, along with about 50 education experts from various institutions like seven state universities, including the state open university; YCMOU, Nasik; Non-Governmental Organizations (NGOs) like Indian Institute of Education (IIE), Homi Bhabha Center for Science Education (HBCSE): Tata Institute

of Fundamental Research (TIFR); Corporate Bodies like Maharashtra Knowledge Corporation Ltd. (MKCL); State organizations like Marathi Vidyan Parishad; and experts from the national agencies like NAAC, NCTE etc. sharing common concerns about Indian education; which came out with a cooperative, collaborative and consortium approach to educational issues like QE4A, under the patronage of Commonwealth of Learning (COL).

### **WHY RESOURCE BASED LEARNING?**

With ever-increasing impact of Information and Communication Technology (ICT) and networking, the world is fast transforming into a global, connected knowledge based tech-savvy society. Using internet, broadband connectivity, mobile phones etc. anyone is getting connected to anyone, anytime, anywhere. New ways of communicating, learning, organizing and managing are coming up and every field of human activity of economic and socio-cultural nature is getting radically changed, reformed and transformed.

Education, as an accepted instrument of social reconstruction and development, is in the center of this accelerated process of social and cultural change. It's a total transformation with new life styles, new learning needs and processes, new skills and newer educational practices to imbibe those skills; relevant and useful for the Net Generation.

The whole perspective of education is changed. Rote memorization of text book information has been replaced by learning to use various resources to generate new knowledge and use it productively. Teacher's role in these processes is considerably changed from a dominating, controlling authority to a facilitating support and a reliable partner in learning. There are now the unprecedented favorable conditions and technologies which themselves lend for the newer learning processes and possibilities to achieve the goal of QE4A. Information Communication Technologies and e-Platforms and Support Services (ePASS) available today, through the global movements like Wiki, MOOCs, and OERs etc., have provided scaling up approaches, making access to quality education much easy and brought the global resources of learning within easy reach of the ordinary learner.

Particularly, the changes like wide access to global knowledge and OERs, establishment of Wiki processes, availability of global norms and standards for communicating and working together on network like SCORM, fast increasing social networking etc. are very conducive for adopting open resources in the education system. All these changes are creating a scenario in which diversified learning by individual or groups is possible, as learning resources are easily available, in abundance, globally.

It has now been proved in brain research that every child has a different set of the multiple intelligences. Since the students differ in capacity and capabilities, a wide variety of resources is essential for individual and group learning. Availability of such unlimited Open Resources; designed, developed and created using sound pedagogy design, is a boon to learners.

In this scenario, it is not the teaching but the process of facilitation of learning that is important. Though, learning is individual, process is a group, interactive process that takes place in the social milieu. It's the self initiated learning which is facilitated when supported. In the emerging connected society, the learning environment is rich with such support. Learning today is therefore, Resource Based Learning (RBL).

### **NATURE OF RESOURCE BASED LEARNING (RBL)**

Resource-based learning gives prominence to the role of resources in the teaching- learning process. The interaction between the learner and the resources (including human resources) designs the learning environment. It is concerned with the selection, organisation and the use of appropriate learning materials. The activities involved offer students opportunities to develop their

competencies and capabilities to become autonomous, self-directed learners and effective end-users.

Thus, RBL can be simply defined as identifying and/or developing and integrating the relevant resources and/or courseware with learning by self/or in group, with or without mentor, to develop the pre-determined competencies and capabilities for optimal performance and development.

### **RBL MODEL FOR EMPOWERMENT AND DEVELOPMENT:**

In India, in 2005, as per the recommendations of the National Knowledge Commission, new National Curriculum Framework (2005) is designed adopting constructivist pedagogy and accordingly, the nationwide school curriculum is restructured, text books written and annual examinations are replaced by the continuous comprehensive evaluation (CCE). RBL Model is based on the basic tenets of constructivist pedagogy like learner centered, activity based OERs, competency based rather than knowledge based objectives, contextual learning, scaffolding, learning activities and self-study, reflective thinking, and other pedagogical principles like cooperative learning and collaborative working, concept based rather than content based and online networked learning.

Using the concept of Resource Based Learning (RBL) and considering the nature and immense potential of the OERs to facilitate such learning, as well as, taking into account the changed roles of the learner, teacher and mentor in this new learning environment, I-CONSENT has developed a constructivist model and structure of activity based learning, supported by meta-database of RLOs (Reusable Learning Objects) of Open Educational Resources (OERs). The constructivist pedagogy principles and situated learning design for situate/social development, provide the conceptualization and the theoretical framework of this model. It can be formulated like

Education + Work + Technology → SURPW

In this constructivist formulation, SURPW stands for Socially Useful Relevant Productive Work as an outcome of the learning process, enabling us to review the existing teaching, training, learning, working and developing processes in a newer perspective.

It's a Socio-Economic Model of learning for development, nurturing suitable culture essential for Life Long Learning (L3), in Anyone, Anywhere, Anytime (A3) scenario with the developmental objectives of imbibing social values such as sharing, caring and developing together as expected learning outcomes.

The main features of this model are:

- designing, developing and using the OERs based on constructivist pedagogy and situated learning design;
- promoting cooperative and collaborative learning, working, performing and developing together, encouraging the co-creation process;
- creation and adoption of mechanisms and structures for value conversion and wealth creation resulting in better empowerment of individuals in terms of certain skills, competencies and capabilities, as well as, in some tangible outcome like Socially Useful Relevant Productive Work (SURPW) for social development.

The learner is to form reform and transform oneself along with others in the process. The contemplated situations in this model viz. the classroom, school and community around the learner, are also to be developed along with the growth of individual.

The learning activities in this model are embedded in the OERs and require learner to perform tasks which include work and self-study of topics selected for learning. The learning activities recommended, practical work suggested and the assignments given in the OERs providing for a

variety of practical applications are all field related and embedded in the course content. They are therefore open ended, for free personalized application and skill development, offering scope for learner's creativity and resulting in the development of self, as well as, the situate class, school, and community. Individuals are free to work on any application, resulting in, some new product or service as a commonwealth.

## **STRUCTURE AND DEVELOPMENT OF OERs**

With these considerations, I-CONSENT developed concept based, activity oriented OERs as self-contained unit for learning, using development centric approaches with objectives like competencies, capabilities and skill development as learning outcomes. Steps in development of these OERs in this model include adoption of a suitable pedagogical design, content analysis, identifying the concepts, preparation of concept maps, specifying objectives and expected learning outcomes, designing and developing the learning situations, writing learning activities for OERs using constructivist pedagogical principles, using wiki process for contribution of quality activities to OERs, publishing the OERs on a tailor-made e-platform as a student support service, developing mechanisms for educating learners in the use of OERs and orienting mentors and other functionaries at study centers, and work centers for supporting learning and mentoring. Space for learner creativity and parental intervention is also provided in this model.

## **PARADIGM SHIFT**

This is a total paradigm shift from old to new pedagogies and technologies, from static content delivery to dynamic learning resources like OERs, print medium to multimedia, local storage and access to distributed networked storage, limited local access to unlimited access to anyone/anywhere/anytime, no quality control to centralized quality assessment mechanism, non-replicating to replicating knowledge resources, and, single user to multiple user resources.

## **THREE OER PROJECTS OF I-CONCENT**

This Model is developed and used for creating interactive Open Educational Resources (OERs) in different areas of study, in Self Learning Material (SLM) format, in three projects initiated by I-CONSENT, in joint collaboration with three different organizations as nodal agencies viz. Homi Bhabha Center for Science Education (HBCSE) - Tata Institute of Fundamental Research (TIFR), Mumbai; National Institute of Open Schooling (NIOS), New Delhi; and Yashwantrao Chavan Maharashtra Open University (YCMOU), Nasik, with the support of Commonwealth of Learning (COL). Maharashtra Knowledge Corporation Limited (MKCL) is the common principal technology partner who provided e platform and support services (ePASS).

These three projects were designed to develop OERs using the same RBL model, for self-learning in different subject areas and for different levels.

### **1. HBCSE PROJECT**

This project was designed in collaboration with MKCL and Homi Bhabha Center for Science Education (HBCSE), Tata Institute of Fundamental Research (TIFR), Mumbai as the nodal agency and sponsored by Rajiv Gandhi Science and Technology Commission (RGSTC), Govt. of Maharashtra in which more than 4000 OERs are developed by about 700 experienced teachers in Science and Mathematics, working for three years, for teachers, parents and students in primary and secondary schools in Marathi, the regional language. They are available on the website (<http://www.mkcl.org/mahadnyan/> )

## 2. NIOS-OER PROJECT

Another major project was initiated for National Institute of Open Schooling (NIOS), Delhi. NIOS is the largest Open Schooling system in the world and is considered as a Resource Organization and Capacity Building Centre in open schooling, at national, as well as, at international levels. On the initiation of I-CONSENT, the NIOS took up the challenge of setting up a model for development of Open Educational Resources.

NIOS conducted this project as a departmental activity with the author of this paper as Hon. Chief Mentor. This project is conducted in two phases. The first phase of the project is completed wherein, about 100 OERs are developed by about 70 practicing teachers in three skill based vocational courses viz. ICT Applications, Rural Technology, and Tourism and Hospitality for secondary and higher secondary levels. They are available on the NIOS website.

([http://oer.nios.ac.in/wiki/index.php/main\\_page](http://oer.nios.ac.in/wiki/index.php/main_page))

In the second phase of this project, slated for the year 2013-4, the OERs are being developed for all the eight school subjects in general education stream, starting with Science and Mathematics at school level preparing students for career development.

## 3. e-B.ED RESOURCES

The third OER development activity recently initiated is in the context of e- B.Ed., an online teacher training program for e-learning developed by I-CONSENT with COL support (Deshmukh et al 2008), and led by the state open university, Yashwantrao Chavan Maharashtra Open University (YCMOU), Nasik.

(<http://www.mkcl.org/ebed/coursematerial.htm>).

The OERs produced in these projects are based on I-CONSENT model and are interactive OERs, designed especially for open learners in multimedia SLM format - not the text book form. They are learner centric, concept based, activity oriented, multi-media, learning outcome driven, promoting self study, skill development and group work. These OERs are available on the websites of the nodal agencies.

### OUTPUT / OUTCOMES / IMPACT:

The actual output and outcome of these projects include development of about 4500 field tested and validated, ready to use OERs contributed by about 800 teachers and educators trained as Master Trainers, thoroughly oriented in constructivist pedagogy and situated learning design and in writing OERs in this format and using them effectively in facilitation of learning.

The outcomes of these projects include-

1. A well designed and field tested system and sub-systems involved in developing and using OERs suitable for RBL
2. Capacity building of groups of trained teachers and educators as master trainers
3. Field tested and validated high quality OERs
4. Networked communities
5. Effective system of evaluation of product, process and performance of learners.
6. More positive change in the mind-set of students, teachers, parents and others.

act of the model as visualized is that it would equip the teachers and learners to promote new learning processes such as learning to learn (self-study), learning by doing (performance),

scaffolding (structuring), reflective thinking, learning through distributed class, personalized learning supported by e-learning resources (OERs), freedom to choose (Learners' autonomy), cooperative / collaborative learning ( Group Learning), networked learning (distributed class) etc. resulting in the process of development of caring, sharing, learning and developing tech-savvy empowered communities of Life Long Learners through networking.

### **LESSONS LEARNT AND CONCERNS FELT:**

The lessons learnt during these projects and challenges faced by the developers, editors and educational administrators, as well as, the experiences gained and the insights developed, brought to fore certain concerns.

For example, educators who developed the OERs were product of conventional F2F schooling. Initially they found it difficult to cope up with newer activities like reflective thinking, group working, and use of ICT etc. De-learning and re-learning was difficult for them. It was very difficult for participants to remain on the new line of thinking. Conceptual clarity of content was there but converting it into pedagogic process of learning was difficult.

Creation of positive mindset and development of e-culture of working in groups using available technology and receiving and reacting to the constructive criticism, comments and feedback positively is very important in RBL but a very slow process.

The learners would be a heterogeneous group with respect to communication and computer skills, besides their background. Those not much exposed to ICT would feel ill-equipped and therefore apprehensive within an e-learning environment, handicapped in virtual interaction.

However, on the hind sight, everyone involved in these projects realized how much their thinking had changed and insights developed while working together. They had highly gratifying experiences in the projects. They felt that open environment, collaborative efforts, reflections, realization of changed thinking and developed insights, made them better educators.

### **CONCLUDING STATEMENT:**

This model is not just a concept, but it is based on well tried and tested systems, processes and pedagogical principles and has potential to be a success. It leads to various learning and developmental processes in the system of living-working-learning-developing together in a connected society with large techno-social structures.

Though the model is designed developed and field tested in the context of Indian continent, the commonality of the need of OERs for QE4A and the similarity of the prevalent adverse conditions and unavailability of adequate resources in the developing countries, especially the commonwealth countries, makes it imperative for them to adapt this type of model to suit their cultural needs and educational practices.

I-CONSENT is committed to support and help any commonwealth country in such adoption.

### **REFERENCES**

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