

National Repository of Open Education for all Educational Resources

Connecting knowledge connecting people

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Abstract

The National Repository of Open Educational Resources (NROER) is an Indian school education initiative by the Central Institute of Educational technology (CIET), National Council for Educational Research & Training (NCERT) and Homi Bhaba Centre for Science Education. The project is funded by the Department of School Education and Literacy, Ministry of Human Resource Development, Government of India and is geared to provide free and open educational resources in wide variety of forms. Initiating the process with the school education, the projects aims to bring under umbrella the resources relevant for teacher education in future. It is also hoped by the end of 2014 the content will also be available in other regional languages too. The Unique selling point of the repository is pedagogical organization of knowledge. Unlike other repositories where the content is being uploaded in variety of forms, the NROER's focus is more on the pedagogical aspect of representation of knowledge. All the concepts in school education ranging from elementary education to higher and higher secondary education are organized in the form of concept maps which brings home the point that the entire knowledge is connected with each other. An interdisciplinary linkage which is the key concern of academicians is being resolved through this scheme of arrangement. It is also proposed to set up online courses, development of content in regional languages and to furnish the repository with the quality resources in the form other than already existing in the repository.

Keyword: India, NROER, School Education, Teacher Education, Connecting knowledge, concept maps, free and open resources, open educational resources.

INTRODUCTION

The National Repository of Open Educational Resources (NROER) is an initiative taken by Department of School Education and Literacy, Ministry of Human Resource Development, Government of India. The Central Institute of Educational Technology, NCERT was entrusted upon the responsibility of development and implementation of this project. The technological support for the repository was extended by the Homi Bhabha Centre for Science Education. The software on which the entire repository is built is metastusio which is a project of [gnnowledge lab](#), [Homi Bhabha Centre for Science Education](#), [TIFR](#), Mumbai .The mission of the repository is to to store, preserve and provide access to variety of digital resources to teachers and to enable the participation of the community in development and sharing of digital resources. The broad objectives of the repository is to to enhance the quality of teaching-learning, to facilitate teachers to create and share contextualized teaching learning resources and to celebrate innovations in resource creation.

The NROER project originated from many deliberations that happened during the making of ICT @ School scheme and formulation of National Policy of ICT in school education. Both National Policy of ICT in School education 2012 and the ICT @ School sceme recommended collaborative creation and widespread dissemination of learning resources. The National Policy on ICT in school education proposes setting up state and national level digital repositories which will host variety of digital content appropriate to the needs of teachers. It also encourages the involvement of teachers and students in collaborative development of digital resources. A series of workshops were organized to develop a roadmap for the NROER. These workshops were organized in 2013 under the co-ordination of Dr. Anubhuti Yadav, coordinator, NROER. Workshops were organised on the development of content and design of the portal . A team led by Dr. Anubhuti Yadav vsited Homi Bhabha Centre for Science education to freeze the design and the features required for the NROER. Separate teams were made to work on the different areas that included development of concepts

maps the feature that organizes all knowledge on the repository, digitizing of audio and video resources, designing of info graphics, mining of web for open educational resources, creating a team of e content evaluators etc. The repository was launched on Aug 13, 2013 by the Hon'ble HRD Minister Mr. Pallam raju in an National Conference on ICT which was held from 13-14 August 2013. The work under the leadership of Prof. Rajaram Sharma, Joint Director, Central Institute of Educational technology, NCERT is on and the repository is growing bigger and richer with the community contributing significantly.

LAUNCH OF NATIONAL REPOSITORY OF OPEN EDUCATIONAL RESOURCES (NROER)

National Repository of Open Educational Resources (NROER) went live on Aug 13, 2013. Hon'ble HRM Dr. M. M. Pallam Raju inaugurated the National Repository of Open Educational Resources (NROER) on the first day of the National Conference on Information and Communication Technology (ICT) for School Education. The teaching community world over lauded the efforts put in by the NROER team. Hon'ble MoS Dr. Shashi Tharoor said that NROER is a significant step in spreading education in reaching out to the unreached. He stressed that the resource platform will enable ICT to help sustainable development by providing high-quality content accessible to all. He emphasized that ICT tools will facilitate democratic dissemination of education, which will make Indians aware of their rights.

The launch of NROER is step towards open educational movement in the field of school education. Most of the content on NROER is available under CC by SA license unless it is mentioned otherwise. CCby SA is one of the the Creative Commons (CC) license which is one of several [public copyright licenses](#) that enable the free distribution of an otherwise [copyrighted](#) work. A CC license is used when an author wants to give people the right to share, use and build upon a work that they have created. CC provides an author flexibility (for example, they might choose to allow only non-commercial uses of their own work) and protects the people who use or redistribute an author's work, so they don't have to worry about copyright infringement, as long as they abide by the conditions that are specified in the license by which the author distributes the work.



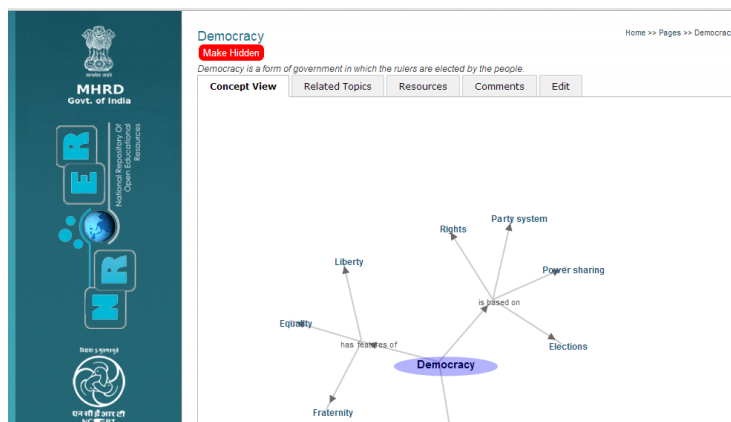
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NROER & organization of Content

The Repository organises its collections into a ever growing semantic map of concepts. The concept map itself is a learning resource for teachers, providing an opportunity for critically assessing the curriculum and aiding the construction of their own unique learning themes for their classrooms. The idea of having organised content in the form of concept maps is to connect knowledge and to bring home the point about the interdisciplinary linkages. A concept page which can be accessed either through keyword search or browse by collection (content is arranged according to subjects and grades) offers concept map as a default view. One can expand the map and dig deeper by control click on any concept. One can also navigate to other concept pages by clicking on the concept. Besides Concept view the concept page offers bouquet of related concepts which are available on repository. The digital resources – documents, audio-visuuls, interactive objects, images are mapped to the concepts and are available under resource tab. This enables access to a library from which teachers can choose appropriate resources.



Concept Page with Concept map as default view

Edit Page that allows user to add tags, create collection and add resources

Each resource is tagged to related concepts making it accessible. Each resource can be downloaded and can be commented upon. Users can comment on the concept map, resources and the entire organisation of the concept. They can also contribute by adding tags and resources. This can be done through edit.

NROER and Resources

Though the resources are tagged to the concepts and are available on concept page, users can access the resources through video, audio, documents, interactive objects and image libraries which are available on homepage.

Videos A wide spectrum of videos is hosted on the repository. The featured video collections include series on land and people, dance forms of India, science experiments and video lectures on a variety of topics. Videos can be accessed at <http://nroer.gov.in/gstudio/resources/videos/#videocollections>

Interactive objects objects are available in a variety of forms. Geogebra applets in mathematics and animations are available in science & mathematics. Interactive Objects can be accessed at <http://nroer.gov.in/collection/Interactive/>

Images/Graphics Photographs are available in the form of albums. The repository hosts a rare collection of photographs on the freedom movement, monuments and minerals. Maps, illustrations, graphics, paintings, etc. also form a part of the repository. Access images at

Conclusion

NROER is a collaborative platform, involving each and every one of us interested in children, teachers and education. The Repository will endeavour to bring together all digital and digitisable resources for the school system – for all classes, for all subjects and in all languages. It has just begun. It has many concepts mapped. It also has many resources. The participation of community in generation of knowledge is the opportunity NROER provides. The content in regional language and the contextualized content is possible only when each one of us will participate and contribute.

