

# Integrating Technology in Classroom Learning



**A Report on the State Level  
Workshop on Open  
Educational Resource model  
in Uttar Pradesh**

**3rd-4th December, 2019  
HCL IT City, Lucknow**

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## Executive Summary

### Background of Workshop



**HCL Foundation** in partnership with **Basic Education Department, Govt. Uttar Pradesh** organized a state level two-day workshop on- **“Open Educational Resource Model in Uttar Pradesh”** at HCL IT City, Lucknow; ON 3<sup>rd</sup> and 4<sup>th</sup> of December.

Based on the experiences and learnings from previous state level workshops organized on the themes of “Enhancing Learning through ICT in Education” & “Innovations in Education”, it was a move towards developing a more concrete model. The development and promotion of open educational resources is often motivated by a desire to provide an alternate or enhanced educational paradigm. In the course of time NCERT syllabus is expected to be introduced in all state government schools. Our vision of creating a platform which provides quality accessible content mapped with learning outcome is the need of the hour.

**The workshop had 38 teachers from across the state of Uttar Pradesh participating and was chaired by Dr. Sarvendra Vikram Bahadur Singh, Director, Basic Education.**

**Key officials from Basic Education department and teachers / principals/ BSA Hardoi from Uttar Pradesh participated for learning and experience sharing. The Action Plan for launching the State Level Open Education Resource for UP was shared by Dr. Sarvendra Vikram Bahadur Singh, Director, Basic Education and Ms. Latita Pradeep, Additional Director, Basic Education, GoUP.**

A panel discussion on **“Opportunities and Challenges in improving the access and quality of education in Uttar Pradesh”** was moderated by Mr. Yogesh Kumar, Operations Head, HCL Foundation

Based on the Karnataka OER Model, IT for Change shared their experiences in terms of mapping open educational resources & creating Subject Teacher Forum (STF). In context to Uttar Pradesh, ZIIEI (Zero Investment Initiative for Educational Innovations) spoke about in reference to Innovative Paathshala and OER practices in state.

### Key Action Points of the Workshop

- Emerging trends in ICT and relevance of OER's in the current scenario
- To assess the efficiency of existing portals available on MHRD website in context to its usage by relevant stakeholders.
- Presentation of feedback and input received on OER Manual (Grade 1-5)
- **Visualizing a repository of digital content for schools in Uttar Pradesh:** ICT enabled infrastructure in Government Schools: Existing variations – Smart TV, Digital boards & Internet connectivity.
- OER Practices in State: Process of transformation
- Suggestion and feedback on compiled OER content of Grade 1-5
- Opportunities and Challenges in improving the access and quality of education in Uttar Pradesh

### Outcomes

After the two-day workshop, the outcomes are as follows:

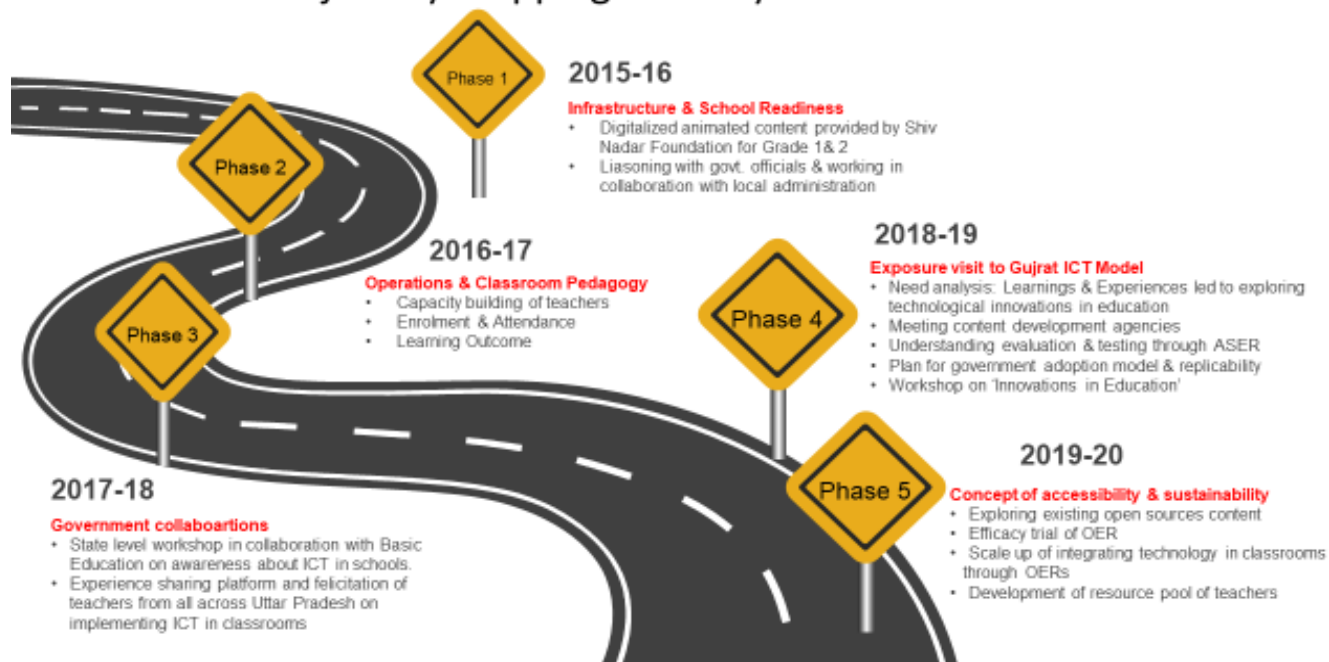
- The Action Plan for launching the State Level Open Education Resource for UP was shared by Dr. Sarvendra Vikram Bahadur Singh, Director, Basic Education and Ms. Latita Pradeep, Additional Director, Basic Education, GoUP.
- Sustainability and futuristic vision in terms of access to digital content.
- Review of OER content mapped as per learning outcome for Grade 1-5
- Awareness and understanding of OER's amongst educators, teachers & practitioners.





## Journey towards Open Educational Resources

### Trajectory Mapping: Journey from 2015-2020

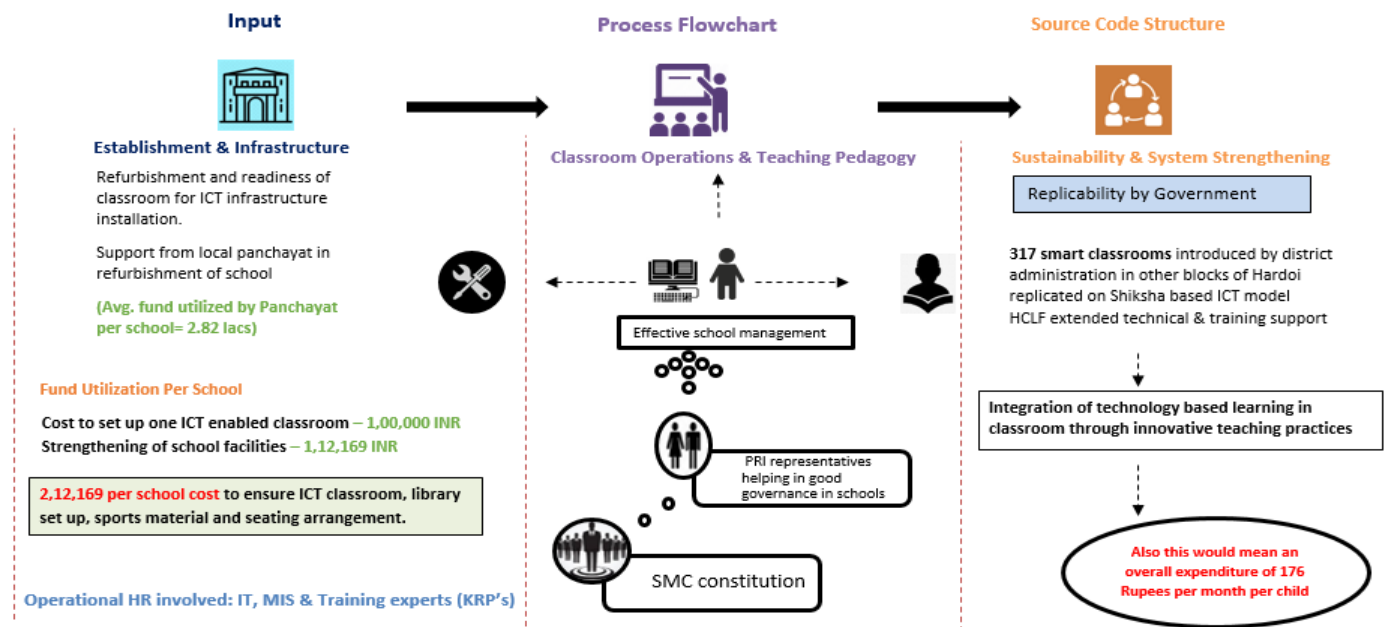


Ms. Kirti Karamchandani, Head, Government Relations, HCL; in her session addressed the gathering about the context setting of the OER model. She said that when the project began in 2015, the main emphasis was on infrastructural development and school readiness as it was found in the baseline survey that one of the main reasons behind the low learning level of the children in project area was due to the lack of basic infrastructure of primary schools. Thus, the project began with a focus on infrastructural development of the schools.

Thus, ICT-enabled classroom for enhancing the teaching-learning environment and school readiness was developed in 2015-16.

## Enhancing Learning Outcome through Technology- Happy School and Open Educational Resources

### Integrating ICT as part of Happy Schools



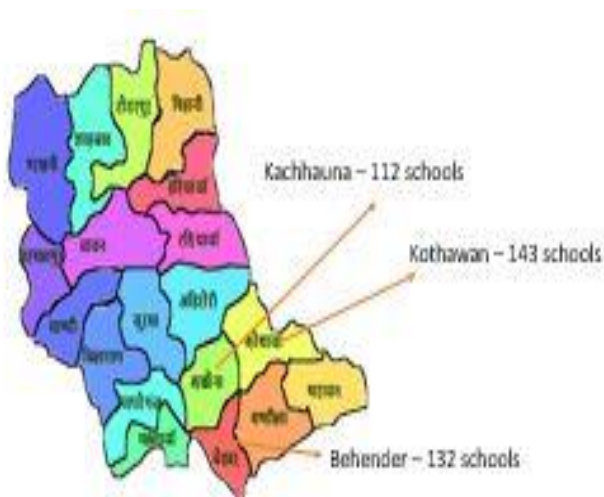
Mr. Ashish Kumar Singh, Associate Sectoral Lead, HCLF; shared his view on how the quality of education can be enhanced by the efficient usage of technology in the classroom. He mentioned that the education sector has seen a noticeable increase in educational standards, advancement and innovations in recent years. Schools and other educational institutions have begun to adopt modern teaching methods through interactive intelligent boards, projectors and smart notebooks, etc. And we cannot deny, that these technological updates make the education system more interactive and easier. Also, this smart technology helps teachers to turn boring lectures/classes into an engaging session. It is not just about sharing information but also creating a better online presentation by avoiding the need to write manually. Mr. Ashish Singh said that at HCL foundation, the focus is on developing a “Happiness Curriculum” in schools by infrastructural improvement of schools and incorporating technology in the teaching pedagogy.

He further added in his session by saying that Open Educational Resources are thus, the need of the hour as it will ensure the sustainability of technology in education that has transformational role on the children’s learning. Going forward he spoke in detail about the coverage, outreach and process indicators of ‘Happy School’.





## Coverage & Outreach by HCL Foundation:



Three blocks of Hardoi district i.e. Kachhauna, Behandar & Kothwan have been covered so far.

317 smart classrooms introduced by district administration in other blocks of Hardoi replicated on ICT model by mapping content of Grade 1-5 through Open Educational Resources where HCLF extended technical & training support.

The effectiveness of Happy School has been ensured by the following:

- Infrastructural improvement of school by fund mobilization through GPDP
- ICT content enrichment
- Training of Trainers and Resource Group Formation on ICT.
- Interactive Learning Experience- Installation of touch boards in schools
- Real Time Data on Students' progress through clicker based assessment

The positive impacts of it has been reflected in the baseline V/S end line survey.

- Increased student enrollments in schools
- Improvement in students' attendance
- Improved writing practice amongst the students
- Behavioral change in parents towards their child's education

## Open Educational Resource(OER) Models & Its Relevance

### Visualizing a repository of digital content for schools in Uttar Pradesh



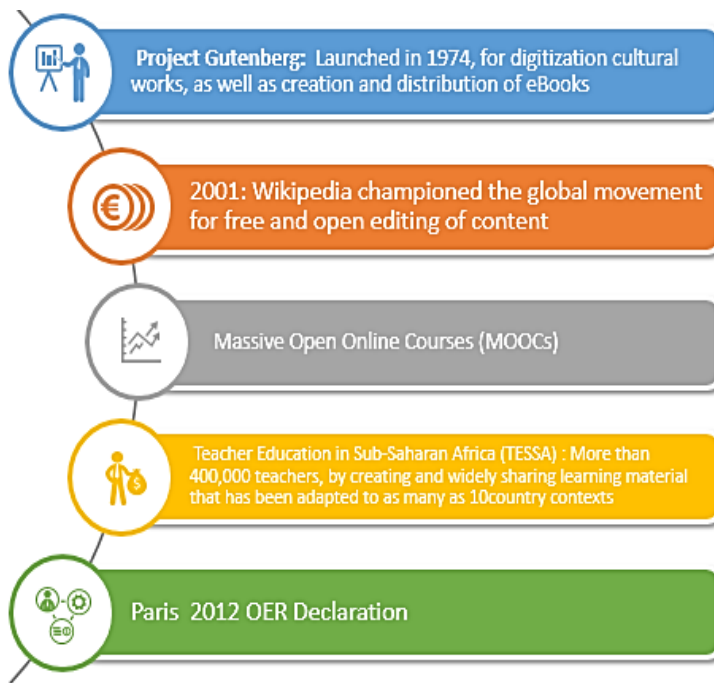
Ms. Supriya Jha, Associate Project Coordinator, HCLF

Ms. Supriya Jha, Associate Project Coordinator, HCLF; enlightened the audience with her in-depth session on OER, their awareness and accessibility in the present day scenario

Her session began with what are OERs? **She said that although learning resources are often considered as key intellectual property in a competitive higher education world, more and more institutions and individuals are sharing digital learning resources over the Internet openly and without cost, as open educational resources (OER).**

- OER are those teaching and learning materials that are available either in the public domain or under an open license.
- OER and the open movement have recently evolved, and in many ways they challenge age-old educational traditions and conventions.
- Different e-learning platforms by MHRD: NROER, e-paathshala, DIKSHA etc.

### Historical Background of OERs







**She spoke about the historical background of the OER and its development.** Ms. Supriya mentioned that OERs can be a great way of enhancing the classroom participation of the children. Children are often bored with monotonous texts, and thus, cringe away from studies. But OERs can act as a medium of generating their interest in the subject. In this way, it will not only improve their classroom participation through the interactive learning experience but also positively impact the learning outcomes. She discussed about the current awareness and accessibility of Open Educational Resources.

## How to use OER's ?



She said, **“The funds spent on content creation and content hosting can be cut down significantly by increasing use of Open Educational Resources,** thus these funds can be utilization for other essential work related to standard improvement of education”. She went on to discuss the different existing OER portals like e- Pothi, ZIIEI, Innovative Pathshala UP, etc. She also spoke about the different types of content licensing that are available for publishing Open Educational Resources online. The Creative Commons license and its utility for uploading OER content online was also discussed by her. In her session she said, **“Technology is bridging the gap between Geographies”, discussed the contextualization of OER content for different geographies. She went on to thank the Government of Uttar Pradesh for their constant support to HCL Foundation for the effective implementation of innovation in education through technology.** She expressed her gratitude by mentioning about the OER Pilot Project that was conducted in Hardoi with the help of the Basic Education Department, Government of Uttar Pradesh is the first stepping stone for the online repository.

## OER Phase 1: Pilot Study in Schools of Hardoi



He added that in order to ensure the infrastructure availability for running ICT-based classes in the schools, LED TV procurement proposal shall be incorporated in the GPDP for FY 2020-21.

Mr. Hemant Rao, BSA Hardoi, GoUp; was invited to discuss about the pilot study that was conducted in Hardoi as Phase 1 of Open Educational Resource. Television is a powerful medium of communication with a tremendous potency to inform, educate, and entertain. It can communicate visually through persons, objects, models, pictures, diagrams, etc. and through spoken words, music and sound effects. Television, particularly the digital television, can reproduce reality to a large extent.

**He said that 317 smart classrooms were introduced by district administration in other blocks of Hardoi replicated on ICT model by mapping content of Grade 1-5 through Open Educational Resources where HCLF extended technical & training support.**

As a trial, the demo was done in two schools with basic mapping and enlisting of content from Grade 1 to 5 for Hindi, English & Mathematics. Post-trial, the acceptance and feasibility of the project was sensed and hence scaled up to 317 schools by orienting the teachers and introducing it to all the English medium public schools of Hardoi district.

He also spoke about the one-day training session that was conducted in Hardoi to familiarize the teachers on how to use the model.

Since this was an offline project, the content was preloaded in a pen drive and given to the teachers so that they could access the content without any hassles of internet connectivity.

He spoke about how there has been a marked improvement in the quality of basic education in the past two years. He said that after discussion with the DPRO it was decided that the LED TV procurements for the schools shall happen through the Panchayat Pradhans.

## Insights from Karnataka OER Model

Mr. Yogesh, Subject Matter Expert, IT for Change; spoke about the Karnataka OER model. IT for Change is the resource institution for the Subject Teacher Forum (STF) “in-service teacher education” program for high school teachers in Karnataka. The Karnataka Open\_Educational Resources (KOER) program is a component of the STF. The KOER program was started in 2013-14 by DSERT Karnataka, in collaboration with IT for Change. ITfC trained around 300 Government High School teachers on this collaborative “Open Educational Resources” (OER) programme embedded within the STF to access, create, review, adapt, share and publish OERs. Teachers are working on creating supplementary and complementary resources as per the state syllabus. The KOER portal is developed in English and Kannada (state language of Karnataka) languages. ITfC conducted a participatory action research of the KOER programme, to understand “whether and how, a bottom-up approach, where participants collaboratively and actively co-create contextual resources ('embedded' within a 'community of learning'), can support effective OER models” The objectives of this case study were to understand how a collaborative learning community can support a sustainable environment for OER access-creation-curation-publishing as well as become a systemic method of teacher professional development in the public education system.



The broad objectives of the action research were as follows:

1. To study how a collaborative (KOER) OER model can be embedded within a local ecosystem of a “community of teachers” (STF), in Karnataka state, in India
2. To understand how such a locally anchored, collaborative OER model can develop effective processes of creation-curation-adoption that contribute to sustained use of OER and teacher development
3. To understand how such a model can contribute to the creation of local and contextual OER



He described in-depth the **T-PACK framework** for content development of OER. He discussed the journey of Karnataka OER model and how it has become functional with the help of the subject teachers' forum who are the content creators for the Karnataka OER model. He said that in 2012, the subject teachers' forum was formulated funded by UNICEF. The teachers were trained on digital literacy through subject based digital tools, thus leading to a community of resources who could develop contents for the OER model. He mentioned that at present there are 4000+ files on the KOER portal. He enlightened the gathering about the collaborative content creation and sharing portals like the Wikipedia. "Education as a public good is the idea behind creation of Open Education Resources" said Mr. Yogesh. He elaborated by saying the the National ICT policy 2012 vouches for the use of free and open use technological architecture to make the educational content available to all. MediaWiki is one such content hosting portal he mentioned.

Mr. Yogesh explained the term "Open" in Open Educational Resources. He said that it represents two ideas-

- a) The Openness of the Content that is, it is accessible to all by registering it as a common property resource under the Creative Commons License
- b) The Openness of the Content to be dynamic, so that it can be edited and updated from time to time with the help of collaborative content creation and sharing portals like the Wikipedia

He concluded by saying that Open Educational Resources have a lot of potential to be the future of quality education in India, however, there is an immediate need to increase awareness amongst the education community about it usage and licensing.





## Insights from Innovative Pathshala, ZIIEI



Mr. Mayank Agarwal, ZIIEI, Aurobindo Society; spoke about the “Zero Investment Innovation for Educational Initiative”. He said that it is an innovative platform by the teachers, for the teachers. Their emphasis, as he mentioned, is on:

- Improve learning outcomes and decrease learning gaps.
- Enhance focus on girl education.
- Inclusion of children with special needs in mainstream schools.
- Creation of enquiry-led self-learning environment.
- Increase involvement of parents in their child’s education.
- Improve student enrolment and reduce drop-outs rate.
- Inculcate the deeper human values in teaching and learning.
- Improve motivation levels among teachers.

According to Mr. Mayank, “Teachers have all the Solutions to the existing problems in the quality of education”. He emphasized on grassroots problem solving. He described innovation as a new idea, as well as a new way of doing something/behavior. He said that the emphasis should always be on experiential learning, relating lessons with the real life situations of the students. If the examples of the lessons are related to the real-life situations of the students, the children will have better clarity on the topic and the learning will remain with them lifelong. Thus, there is a need to work on integrating experiential learning into the classroom. Speaking about OERs he mentioned that it is crucial to bring all such Open Educational Resources and other innovations in education on one portal for ease of accessibility. He mentioned that there is an urgent need to improve the quality of education in India. He said that India’s PISA ranking (conducted by OECD) is unsatisfactory. The index of learning can be improved by conceptual learning. Thus, the vision should be on achieving the learning outcomes by incorporating life skills and value education into the curriculum with the help of technological advancement like Open Education Resources.

## Transformation of Education: Process of change



Mr. Abdul Mubin, Assistant Director, Basic Education, GoUP; shared the department's vision in transformation in education. He said that the teachers are already putting in a lot of efforts to enhance the quality of education for the students. Diksha App is one such effort on the end of the department to incorporate technology in education. The Diksha app is based on the SCERT syllabus and has all the lessons digitized on the portal with interactive content available for enhancing learning experience of the children. The SCERT books come with a QR code on top of each of the chapter. The teacher is supposed to scan the QR and that will lead to the digital content of the chapter on the portal. He also spoke about the other initiatives of the teachers like “**Mission Shikshan Samvaad**”. It acts as a platform for all the teachers to jointly coordinate and share their ideas and innovation to improvement the quality of education. He praised the teachers for their consistent effort and believed that they play the most important role in the process of change. to do the best to keep improving the quality of education. He encouraged the teachers to continually keep updating themselves with the latest technology, and to incorporate the use of it in their lessons. With the OER initiative, he is hopeful that it will revolutionize the way lessons are taught now.

He thanked HCL foundation for extending their support for enhancing education in Uttar Pradesh. He also mentioned that the OER portal is a futuristic step with a lot of potential to improve learning outcomes of the children. He concluded by saying that one should always leave something in a better state that what one found it in, and thus he is extremely hopeful that the teachers will continue to transform the scenario of government schools.

## Awareness About OERs through Clicker Based Quiz

The second half of the workshop started with a lot of energy as the OER quiz began. Each of the participating teachers were given a clicker. It was a clicker based quiz consisting of 15 questions. The quiz was conducted by Mr. Maanavendra Singh, Associate Sectoral Lead, HCLF. The clicker based assessment ensured real time analysis of the responses that were given by the teachers. It was found that even though the teachers were aware about the term “Open Educational Resources”, they lacked the technical knowledge about OER and how they could be used in the lessons. The analysis of the results led to a discussion on the different OER portals. The teachers were enthusiastic all throughout the quiz. They were also asked about their feedback on the sessions that were conducted.



## TOWARDS A FUTURE: FEEDBACK AND INPUT ON OER MODEL

Educational media have brought about new learning possibilities in the conventional classroom, distance education and self-learning.

The OER phenomenon has revolutionized the way information is used and disseminated. It has led to an emergence of creative participation in the development of digital content in the entire education sector. A number of innovative initiatives aimed at providing easy access to educational resources have been taken up. Many Open Universities have taken up initiatives to make their educational resources available in the public domain. However, OER practices in India are currently in an initial stage of development and a number of issues need to be considered. But the potential for growth of the OER phenomenon in India cannot be denied and more such initiatives should be encouraged in the open and distance learning systems in India.

In the current scenario, accessibility to quality content is a challenge. Another major issue is regarding the awareness of existing portals among the potential users. It is a very relevant concept today when we talk about integrating technology rightfully in the classrooms.



Ms. Lalita Pradeep, Additional Director, Basic Education, GoUP introduced the offline OER model designed by HCL foundation. Each of the participating teachers were divided into a group of 5 members and they were to review the entire OER model for English, Hindi, and Maths, from Grade 1 to 5. The entire session was moderated by Mr. Yogesh Kumar, Operations Head, HCL Foundation. He shared that the teachers have an integral role to play in the lives of the children. Thus, it is extremely important that each of the content that is designed for the students are thoroughly scrutinized by the teachers so that the quality of the content can be further improvised by incorporating their advice.

The content should be analyzed on parameters like:

- Video quality
- Audio Quality
- Relevance of the Content with the Lesson
- Contextualization of the content for the geography
- Language of the Content

The feedbacks and inputs can be categorized as follows:

- The work was highly appreciated by the teachers. The offline mode of it made it possible to edit/add/or uploaded different videos
- Picture quality: The resolution/size/animation of the videos can be enhanced
- It could be made bilingual (English and Hindi)



All the videos were thus reviewed over the next 3 hours by the group of 38 best teachers across Uttar Pradesh participating in the workshop. Each of the feedback that was generated during the reviewing session was treated as important. Day 1 ended with the reviewing of the content by the teachers.

Day 2 began with a promise of acting as a platform for bringing about quality improvement in the education in the State of Uttar Pradesh.

The day began with a recap of all the sessions that were held on day 1. After the Recap session, the teachers presented the consolidated review of the OER Content.

Mr. Yogesh from IT for Change suggested that the teachers can be further incorporated in the process by engagement of teachers in Content Creation. Open Tools for hosting the OERs should be used. Each of the videos should be checked for their authenticity. Ms. Latita Pradeep said that a guideline for OER should be framed. The content should be updated every day. A matrix of framework for OER should be drafted. She said that OER can't replace the importance of teachers. It can be a major tool for enhancing the quality of education, not the total tool. Open Forum for Teachers Feedback should be incorporated in the OER portals. She said that in order to bring about change on such a massive scale, **“forward thinking amongst the teachers are very important.”**





Mr. Akshansh Akshat, Project Officer, HCLF; moderated the presentation where the teachers presented feedback on subject wise modules.

After an intensive session on module study by the teachers on Day 1, all the feedback was collected and designed into relevant sections and categories based on which Mr. Radhe Shyam, Ms. Deepshikha and Ms. Yatika Pundir spoke about the effectiveness of subject wise OER content mapped with learning outcomes.

As practitioners, their ideas and suggestions were practical and hence shall play a pivotal role in modifying the content and contribute in its upgradation.

## MODULES & FRAMEWORK OF OER MANUALS



After the presentation, a module framework of OERs was presented by Ms. Supriya Jha, Associate Project Coordinator, HCLF. She presented in brief what could be the different frameworks for developing OERs and Reusable Learning Tools(RLOs). The framework for developing OERs could be either based on the existing OERs and RLOs or a unique framework for their development could be formulated. In order to develop a framework for OER they following is required:

- Granular understanding of the context
- It will help us to refine our mapping of content
- The templates can be a unique approach or it can be a collaborative effort from the existing models on the different portals like-

NROC (National Repository of Online Courses, Learning Object Attribute Metric Tool (LOAM), Centre for Excellence in learning & teaching for E-learning (CETL)

She shared in brief the frameworks of some of the existing OERs and RLOs. They are as follows:

**National Repository of Online Courses(NROC):** NROC has defined ten significant domains and principles for the effective development of their online courses. These domains were chosen by synthesizing the literature on learning theories, current practices, and experiences, and vetting them with the real world issues of current available standard technologies, how education is managed and delivered, the experiences of teachers and expectations of learners. The attributes chosen are as follows:

Assessment, Content, Assignments, Interaction, Media, Pedagogy, Design, Technology, Access, Support

**Learning Object Attribute Metric Tool:** The LOAM has been designed as an evaluation tool for e-learning materials. It allows selection of a range of attributes or criteria against which the user wishes to assess the learning materials and then provides a series of tools to allow that assessment to be carried out and the results displayed. The attributes chosen are:

Alignment, Assessment, Interactivity, Navigation, Context, Integration, Media Standard, Objective, Feedback, Prerequisites, Self-Direction, Support

**Centre for Excellence in Learning and Teaching:** The main attributes are:

Role of Others, Authentic, Person Centeredness, Multiprofessional Use, collaborating with Others, Shared Problem Solving.

The uniqueness of the OER content mapped by HCLF was that it was based on 5E instructional model, she said.

The 5E Model is most effective when students are encountering new concepts for the very first time because there is opportunity for a complete learning cycle. The sustained use of an effective, research-based instructional model can help students learn fundamental concepts.



The panel review was concluded by Ms. Lalita Pradeep, Additional Director, Basic Education, GoUP. She said that there is a need for developing framework for OER so that content can be dynamic, updated, revitalized, diverse, and rich. It would ensure ease of learning and enhance the utility of OER. Thus, she advised for the formulation of a unique framework matrix of OER with theoretical underpinning and attributes.



## Consolidated Learnings and Collaborative Efforts



Mr. Vaibhav Chauhan, Project Manager, Samuday, HCLF; addressed the collaborative learning from the two days' workshop after the content was review by the teachers and the Panels. He shared the learnings and also paved the way for the panel discussion on Opportunities. According it to him, the focus of quality education should be on enhancing human development. The objective of teaching should be on conceptual learning. It is important that the students have a clarity on the basic concepts of the lessons in order to improve their learning outcomes. In the current economy, the focus should be on skill development of the children through quality education.

Conceptual learning will ensure that the teachers focus on need based teaching so that there is a level playing field for each of the students. There is a need to develop multiple content for need-based teaching. This will have a positive impact on the multi-level learning of the children. He spoke about the “Mindspark” study conducted in Delhi for grades 6 to 12 to see the impact of technology in improving the learning levels of the students. For this study, students were assigned an interactive learning program with the help of technology in learning. The results show that after less than five months, students assigned to attend the program performed .37 standard deviations better in math and .23 standard deviations better in Hindi—i.e., 2 and 2.4 times the progress made by their control counterparts over the same period.

He spoke about “**Teaching at the Right Level**”. He referred to the study and said that It was found in the study that children lag far behind curricular expectations. the average sixth grader was about 2.5 grade levels behind their expected performance in math in grade 6 and 4.5 grade levels behind in Grade 9. **The blended learning program combining technology in the teaching-learning framework can improve the children’s learning, thus it can result in improving the learning level of the children.** Hence, while teaching teachers should concentrate on the learning outcomes of the lessons and not just the chapters of the book. The content should be correlated with the learning outcomes. It can thus yield positive impact on the learnings of the children.

## Perspectives on OER



Ms. Lalita Pradeep, Additional Director, Basic Education, GoUP; shared her perspectives on the different OER models and portal. She spoke about the role of OER in the Indian context. She said that India is one of the leading countries in the domain of OER. National Knowledge Commission (KNC) in 2007 recognized the role of OER, and Open access in Knowledge Economy to upgrade quality of Education.

A recommendation to create Web Based National Repository of high quality resources for Open Educational Resources was put forward. The creation of any OER repository should be a collaborative process amongst the Government, the private organizations, and the teaching-learning community (primarily the teachers but not only the teachers). She also spoke about the enabling dots in form of creative commons license that allow the free creation and sharing of Open Educational Resources. An enabling legal framework will allow unrestricted access without compromising intellectual Authorship.

She said that the Creative Commons License (CC) license is one of the several public copyright licenses that enables the free distribution of an otherwise copyrighted work. CC license is used when an author wants to give other people the right to share, use, build upon a work that they have created. UNESCO and Commonwealth of Learning (CoL) adopted open licensing Policies for their materials, respecting IPR at the same time. World OER Congress in 2012 organized by UNESCO and CoL released OER Paris Declaration 2012 urging government Edu. She also spoke about the OER initiative in the Indian Context. She said that there are two types of OER currently available in India- audio-visual OER, and Textual OER. However, there are certain drawbacks of the currently existing OER contents. They are as follows:

- a) Only few of the contents are aimed at school education
- b) Mostly aimed at the students of technical and vocational education
- c) The e-Learning products and services are mostly for senior students (K-12)

Thus she mentioned that there is need to design Open Educational Resources for the basic school education. She also discussed about the National and International already existing OER portals.



## Integrated Way of teaching through OER incorporating the 5E instructional Model



Professor P.K. Chaurasia, HoD, Department of Science & Maths, NCERT, GOI; addressed the gathering in his sessions on the integrated way of teaching, incorporating technology in the teaching pedagogy. It will act as an additional learning tool. It can never replace the importance of teachers, however it can accelerate their teaching method and make the classroom learning more interactive for the children. He spoke about how the 5E instructional model can be incorporated for designing OER. The 5E Model is most effective when students are encountering new concepts for the very first time because there is opportunity for a complete learning cycle. The sustained use of an effective, research-based instructional model can help students learn fundamental concepts.

Teachers who can incorporate instructional models like the 5E Model into their classrooms help students build a strong foundation of knowledge through active participation. He explained each step of the 5E instructional model and its application and importance in classroom teaching. The steps that he discussed are as follows:

### **Engage -**

Gain an understanding of the students' prior knowledge and identify any knowledge gaps. Ask students with asking opening questions  
Writing down on the board or chart paper what they already know about the topic

### **Explore**

Students actively explore the new concept through concrete learning experiences. Communicate with their peers to make observations.

### **Explain**

Students synthesize new knowledge and ask questions if they need further clarification.

Teachers should ask students to share what they learned before introducing technical information in a more direct manner

Teachers utilize video, computer software, or other aides to boost understanding.

### **Elaborate**

Apply what they've learned. This helps them to develop a deeper understanding. Teachers may ask students to create presentations or conduct additional investigations to reinforce new skills.

### **Evaluate**

Allows for both formal and informal assessment. During this phase, teachers can observe their students and see whether they have a complete grasp of the core concepts.

He said "OERs should be just one-way projection of videos but it should be used in such a way that the children are enjoying the lessons". He concluded by saying that efficient teaching methods can help in explaining abstract concepts in concrete ways to the children.

## Niti Aayog's Initiatives for Transformation Education through Technology

Mr. Harshit Mishra, Deputy Adviser, Niti Aayog, GoI; graced the occasion by his presence and enlightened the gathering about the efforts of Niti Aayog as an institution of national importance, aiming at bring about quality improvement in education with the use of technology. He spoke about project SATH-E (Sustainable Action for Transforming Human Capital), 2017 that is running in states of Jharkhand, Orissa, and Madhya Pradesh. The emphasis of the project is in improving learning outcomes. SATH-E aspires to be a '*saathi*', to the educational system with the student and the teacher at its center. SATH-E has been envisaged as a programme which aims to transform elementary and secondary school education across these three states. Thus, SATH-E aims to create role model States for education and mainstream 'islands of excellence' across the country to facilitate qualitative and quantitative transformation of learning outcomes.



Merging technology with need-based, data-driven assessment and a 'giving it what it takes' approach - be it innovation, incubation, external third party funding and Public- Private- Philanthropic Partnership (PPPP) experimentation – SATH-E puts the States in the driver's seat to transform education at scale. The focus is on quality improvement of subject like Maths, Science, and Languages.

Apart from that Niti Aayog is also working on school consolidation. They have also developed a school monitoring system by strengthening the MIS system of the schools in Jharkhand. E-Vidya Bahini and E-Vidya Bahini 2.0 aims as real time, app based monitoring. It also has a learner tracking format so that the learning progression of the students can be tracked continuously and monthly.

He concluded with a message that he is hopeful that technological advancement in education can improve the quality of education. Also he is looking forward to this OER project initiated by HCL Foundation in collaboration with the Government of Uttar Pradesh as will be a major step towards bringing about positive change in education with the help of technology.

## IMAGINING THE FUTURE OF OPEN EDUCATIONAL RESOURCES: WAY FORWARD FROM THE WORKSHOP



### Model for sustainability

In order to ensure that like many projects that start with a bang and end with a whimper, chiefly due to paucity of funds and lack of consistent government initiatives, the ICT projects need to be linked to a self-supportive mechanism, whereby the beneficiary institution is empowered through different (inside/outside) channels to ensure pursuance of the project with the help of other stake-holders, in collaboration/joint venture, so that even after the initiating agency retracts, the programmes do not face closure/cessation. Multiple financing channels should be worked out for contingency support. An important aspect in this regard is the sustained interests of the stake-holders as well, that goes beyond finances, because in a country such as India, drop-out rates in education are alarming. A sense of alignment with the project needs to be fostered, but only after the stake-holders, students, guardians, teachers, local benefactors, funding agencies, political parties – all are convinced and motivated about the virtues of the issue. Also policy decisions are also influenced by change of political leadership, and a keen understanding about the processes involved, the corresponding requirements, and necessary harmonization with strategies – finances – implementation need to be ensured. Classroom teaching methodology and increase motivation among teachers thereby making it a more dynamic environment to learn and create a knowledge exchange platform.

## Panel Discussion on Opportunities and Challenges in Improving the access and quality of education in Uttar Pradesh



Towards the end of this workshop, perhaps the most important discussion was lined up. It was a panel discussion on “Opportunities and Challenges in Improving the access and quality of education in Uttar Pradesh”. The panel consisted of eminent and learned personalities like Dr. Sarvendra Vikram Bahadur Singh, Mr. Harshit Mishra, Prof. P.K Chaurasia, Ms. Lalita Pradeep, Mr. Dattatraya Gokhale, and it was moderated by Mr. Yogesh Kumar, Operations Head, HCLF. Mr. Yogesh set the context of the panel discussion by sharing the role that HCLF has played in improving the quality of education in Uttar Pradesh in collaboration with the Government of Uttar Pradesh. He said that the approach should be from macro to micro and then situating it with the larger context. For example, he spoke about the macro context relating it with the KOER model, and then related it with the micro perspective by talking about the OER model developed by HCLF. The larger perspective was incorporated by the State’s initiative of adopting the OER model for Uttar Pradesh. He spoke about the joyful learning through Happy Schools. And mentioned that today a very strong group of resource person has emerged through teachers training. SMC are functional now. School Infrastructure has improved with the help of gram panchayat and HCL Foundation. Child development and participation has improved with the help of Bal Sansad formation. He said HCL Foundation plays a role of gap filling and taps into the areas where the schools are lagging behind. He concluded and invited the next speaker Mr. Harshit Mishra by saying that systematic response to improve accessibility or quality of education is needed. It will improve the overall school environment. The next panelist, Mr. Harshit Mishra spoke about the consolidated experience in other States with the help of project SATH-E. He also mentioned about the development of Diksha app into Diksha 2.0. the latest version of this app will be more user friendly and it will be developed for all the subjects. All the videos and other educational content will be reviewed and then uploaded. App-tech educational initiatives have been working in silos till date but there is a need to integrate all of it on one platform that will be based on NCERT. He said that modern technological advancement like artificial intelligence, Virtual reality should be incorporated into OERs for Adaptive Learning Experiences.





Next panelist Mr. P.K Chaurasia said that NMEICT provides funds for ICT education and the concept of OER came about in 2014 thus NCERT developed NROER. OER should be developed keeping in mind the new learners. KOER model is very well established, the model is very good for contextual teaching. **The concept mapping of OER is important, he said.** The teacher should master the art of using already developed material in their classrooms. However, there is always a challenge in defining e-content. It is important for teachers to learn using the different OER software. The next panelist Ms. Lalita Pradeep said that educational concept should focus on cultural heritage art project dying sports, adventure sports etc., so that the children are able to learn from real life situations. The next panel is Mr. Dattatraya Gokhale spoke about how the new education policy is aiming to bring about change with the use of technology. Technology has become an integral part of our lives. The policy document he mentioned talks about the structure and system of educational reforms. He spoke about the national curriculum framework 2005 that states the children should be at the center of learning. **He mentioned that teachers should refer to the NCF 2005 for effective teaching methods.** He said we should use technology but also emphasis on moral learning. Lesson should be based on real life situation. He said OER can also incorporate micro teaching plan. Review committee should review all forms of OER and categorize it based on competency grade and context. He said we should also work towards teacher professional development. **Teachers training and learning curriculum requires systematic reforms.**

Mr. Sarvendra Vikram Bahadur Singh concluded the panel discussion by saying that it is important to provide hand holding support to the teachers on tech learning. This can be ensured by conducting different workshops in different parts of Uttar Pradesh for enhancing the teacher professional abilities on ICT. It is important to bring them on one platform where they can create and share their knowledge for enhancing the quality of education. He called this the **democratization of knowledge.** In the end he invited Ms. Lalita Pradeep to share the states action plan on OER.

## State's Action Plan on OER over the next 6 months



Ms. Latita Pradeep shared the State's vision and Action plan regarding OERs. She also praised the work of HCL foundation. The main points of the Action Plan shared by her are as follows:

1. Announcement of the of launch of State Open Educational Resource (SOER). She said that it will be reviewed by teachers of Basic education department. Once the content is reviewed by the teachers, it will be subjected to a panel review by experts and directorate of Basic Education
2. Creating policy guidelines on creation and release of SOER- An ICT infrastructure will be designed and adequately used.
3. SOER repository creation- The content will be previewed by the review committee to be formed at the State Level consisting of teachers of the Basic Education Department. There will be regular meetings held to finalize the OER content.
4. An open access web repository will be created for hosting the OER Contents
5. Capacity building of teachers across state on licensing, videography, Mobigraphy
6. Unveiling of the State Open Educational Resource Portal

## Conclusion

### Towards a bigger picture

Creating a repository of digital content for Grade1-5



Coordination with government



Innovation for future



Contextualizing OER in classrooms



The 2-Day workshop ended on a very successful note with the Basic Education Department of Uttar Pradesh launching the State's Open Education Resource portal. The workshop ended with Ms. Lalita Pradeep delivering the vote of thanks to all the participating teachers, resource person, and HCL Foundation for their generous and concrete efforts towards quality improvement of education. All the 38 participating teachers were handed over a certificate for their enthusiasm to be a part of this workshop. All the resource person were felicitated for sharing their views with the gathering and drawing the roadmap for future journey of technology transforming education. The Open Educational Resources thus have a lot to contribute toward the enhancement of school education.





सर्व शिक्षा अभियान  
सब पढ़ें सब बढ़ें



## In the News

hindustantimes

SORP LAUNCHED

# ‘Teachers in UP will easily be able to use open resources’

**LUCKNOW:** The Uttar Pradesh basic education department on Wednesday launched the State Open Resources Programme (SORP) to enable teachers to develop student-friendly pedagogy and make learning fun at government primary and upper primary schools.

Basic education director Sarvendra Vikram Singh, additional director Lalita Pradeep and other dignitaries launched the programme at a workshop in Lucknow. The two-day event concluded on Wednesday.

While launching SORP, Singh stressed on the importance of e-materials as teaching-learning tools. “Teachers throughout the state will easily be able to use the open resources to enhance their students’ learning,” he said.

Launched in collaboration with HCL Samuday—a flagship programme of HCL Foundation aimed at uplifting rural India—SORP includes audio and audio-visual presentations, animated videos, e-books and more in the public domain.

“Teachers can easily use these materials through mobile phones and internet connectivity. Many teachers, in their individual capacities, are continuously using the resources to update their knowledge and

teaching-learning practices,” said Lalita Pradeep.

Under the guidance of the directorate of basic education, HCL Samuday has developed a repository of open resources containing around 800 e-materials. Already the state syllabi for Classes 1 and 2 have been converted into interactive audio-visual materials.

“Teachers in around 400 primary schools in Hardoi area have been trained in using these materials,” Pradeep said.

Prof PK Chaurasia, head, department of science and mathematics, NCERT, New Delhi and Harshit Mishra, deputy adviser, NITI Aayog, attended the event.

The event was attended by 40 teachers from across the state.

## HAPPY SCHOOLS

The workshop aimed at promoting the concept of ‘happy schools’ too. Teachers discussed ways and means to not only improve the environment and infrastructure at schools but also ensure that the students remained happy as they learnt. “Happy learning helps in knowledge being retained for longer spans,” said Yatika Pundir, assistant teacher, primary school Kamaalpur, Rajpura block, Meerut district. **HTC**

# बेसिक शिक्षा की वेबसाइट निजी पोर्टल जैसी बनेगी

राज्य मुख्यालय | विशेष संवाददाता

तैयारी

अब बेसिक शिक्षा विभाग भी निजी शैक्षिक पोर्टल की तर्ज पर अपनी वेबसाइट तैयार करेगा। इस पर कक्षावार, विषयवार व पाठवार लिंक मौजूद रहेंगे। शिक्षक या बच्चे एक क्लिक पर इससे संबंधित सभी लिंक देखेंगे। ये सभी के लिए निशुल्क रहेगा।

इसे तैयार करवाने के पीछे मंशा यह है कि शिक्षकों को एक जगह पर पढ़ाने के लिए रोचक सामग्री मिल सके। इसका पायलट प्रोजेक्ट हरदोई में चल रहा है। इसके लिए बेसिक शिक्षा विभाग ने एचसीएल फाउंडेशन से करार किया है। ‘एचसीएल समुदाय’ इस वेबसाइट के लिए पहले से मौजूद एनीमेटेड वीडियो, ई बुक और कई तरह के कंटेंट को इकट्ठा कर रहा है।

इस वेबसाइट में पहले कक्षा पर क्लिक करते ही उससे संबंधित सभी विषय दिखेंगे। इसे क्लिक करने पर सभी पाठ खुल जाएंगे और पाठ पर क्लिक करते ही सभी लिंक दिखेंगे। कक्षा 1 व 5 के लिए सभी मैटिरियल तैयार हो चुका है।

अब तक 800 से ज्यादा ऑडियो वीडियो कंटेंट आ चुका है। इसमें ऑनलाइन ट्यूटोरियल के अंदाज के वीडियो भी मिलेंगे। वहीं ऑडियो क्लिप

- इस पर कक्षावार, विषयवार व पाठवार लिंक मौजूद रहेंगे
- शिक्षक या बच्चे को एक क्लिक पर सभी लिंक दिखेंगे

## शिक्षकों की मदद से ही तैयार हो रही सामग्री

एचसीएल कक्षा 6-8 के लिए वीडियो तैयार करने पर काम कर रहा है। इसमें वह सरकारी स्कूलों के शिक्षकों की ही मदद ले रहा है।

विभाग में लगभग एक हजार ऐसे शिक्षक हैं जो टेक्नोलॉजी का इस्तेमाल जानते हैं और अभी तक पढ़ाने के लिए ऑडियो व वीडियो सामग्री का इस्तेमाल करते आए हैं। उन्हें और बेहतर तरीके से शिक्षण सामग्री तैयार करने के लिए एचसीएल समुदाय प्रशिक्षण भी देगा। अभी तक ऐसी कई सामग्री है जिसे विभाग के शिक्षक इस्तेमाल करते आए हैं लेकिन वे ऑनलाइन दृढ़ करने पर ही मिलती है। लेकिन इस वेबसाइट के बाद सारी सामग्री एक जगह मिलेगी।

भी होंगी। इन्हें शिक्षक एक मोबाइल व इंटरनेट के जरिये कक्षा में पढ़ाते समय इस्तेमाल कर सकेंगे।

# प्रदेश स्तरीय ओपन एजुकेशन रिसोर्स वर्कशाप हुई संपन्न

ए. आर. उस्मानी

गोण्डा, (अवध 24 ब्यूरो)। राज्य स्तरीय ओपन एजुकेशन रिसोर्स का दो दिवसीय प्रशिक्षण प्रदेश के एचसीएल आईटी सिटी लखनऊ में संपन्न हुआ जिसमें शिक्षा निदेशक सर्वेन्द्र विक्रम



बहादुर सिंह सहायक शिक्षा निदेशक अब्दुल मूवीन, एडिशनल डायरेक्टर ललिता प्रदीप के साथ प्रदेश भर के 40 अध्यापक शामिल हुए। जनपद गोंडा से राज्य आईसीटी पुरस्कार प्राप्त शिक्षक राखा राम गुप्ता को शामिल किया गया था। बेसिक शिक्षा एचसीएल फाउंडेशन के माध्यम से विभाग एक नए आयाम की ओर अग्रसर है जिसमें अभिभावक, बच्चे व शिक्षक हैं। सभी लोग अपने मोबाइल लैपटॉप व अन्य मीडिया पर एक से पांच तक की समस्त पुस्तकों का ऑडियो विजुअल के रूप में प्राप्त कर सकते हैं। प्रदेश का यह पहला कदम है जो ओपन एजुकेशनल की ओर बढ़ रहा है। घर बैठे ही बच्चे किसी विषय वस्तु को ऑडियोविजुअल के रूप में पढ़ सकते हैं जिसमें एचसीएल फाउंडेशन और प्रदेश के विभिन्न शिक्षक एक साथ मिलकर पाठ्यक्रम आधारित ऑडियो विजुअल तैयार करेंगे। साथ ही ओपन एजुकेशन रिसोर्स सट्टाडियो भी स्थापित किया जाएगा जिसमें सभी विषय वस्तु आधारित पाठ्यवस्तु को तैयार करते हुए सर्वर पर डाला जा सकेगा। घर बैठे बच्चे ओईआर के माध्यम से सीख सकेंगे।

## अब शैक्षिक रिसोर्स आसानी से प्रयोग कर सकेंगे शिक्षक

हरदोई (एसएनबी)। एचसीएल फाउंडेशन और उप बेसिक शिक्षा विभाग के संयुक्त तत्वावधान में ओपन एजुकेशन रिसोर्स के बेसिक शिक्षा विभाग में निर्माण, संकलन और प्रयोग पर आधारित दो दिवसीय राज्य स्तरीय कार्यशाला का आयोजन एचसीएल सिटी लखनऊ में हुआ। जिसमें निदेशक बेसिक शिक्षा सर्वेन्द्र विक्रम बहादुर सिंह, अपर निदेशक ललिता प्रदीप, सहायक शिक्षा निदेशक अब्दुल मूवीन व वीएसए हेमंत राव के साथ नीति आयोग के डिप्टी एक्ज़ाईक्यूटिव मिश्रा और एचसीएल आईटी के एज्यूकेटिव प्रोफेसर पीके चौरसिया सहित विभिन्न जिलों से आये 42 कंप्यूटर विशेषज्ञ शिक्षक उपस्थित रहे।



लखनऊ में कार्यशाला में प्रमाणपत्र प्रदान करते अतिथिगण

जिसमें सुपर हंड्रेड टीम मिश्रा, सभी अंग्रेजी मीडियम स्कूलों में एलएचटी टीवी की उपलब्धता

और ऋषियेय यादव ने प्रतिभाग किया। इस अवसर पर आमंत्रित वीएसए श्रीराम ने जनपद में आईसीटी में हो रहे नवाचारों को साझा किया। जिसमें सुपर हंड्रेड टीम मिश्रा, सभी अंग्रेजी मीडियम स्कूलों में एलएचटी टीवी की उपलब्धता

जैसे प्रयासों को भी साझा किया। जिसकी सभी ने सराहना की। 75 जिलों में केवल हरदोई वीएसए ही इस कार्यक्रम में शामिल थे। विभाग ओपन एजुकेशन रिसोर्स को लेकर एक बड़ी तैयारी कर रहा है। जहां पर शिक्षकों और बच्चों को एक ही स्थान पर लाभान्वित किया जा सके।

कार्यशाला के द्वितीय दिवस में प्रतिनिधित्व करने का अवसर जिले के आईसीटी मास्टर ट्रेनर राधेश्याम दीक्षित को मिला जिससे उन्होंने सभी विशेषज्ञों के पीडब्ल्यू को एकत्र करके श्रेणीबद्ध किया और सभी के साथ साझा किया। एचसीएल के तकनीकी सहयोग से विभाग ने अपना स्वयं का ओपन एजुकेशन रिसोर्स प्रोग्राम लॉन्च कर दिया है। जिसमें एचसीएल फाउंडेशन के योगेश कुमार व आशीष सिंह को विशेष भूमिका रही।

## राज्य स्तरीय कार्यशाला में शामिल हुए प्रवीण

जास, वनस्पति : आने वाले समय में बेसिक शिक्षा विभाग में बदलाव नजर आएंगे। परिषदीय विद्यालयों में टेबलट दिए जाने की योजना तैयार हुई है। जिसके माध्यम से परिषदीय बच्चों को भी कंप्यूटर की शिक्षा दी जा सकेगी।

ओपन एजुकेशनल रिसोर्स के माध्यम से हिंदी, गणित, अंग्रेजी विषय की पाठ्य पुस्तकों को कार्टून, ऑडियो, वीडियो के माध्यम से पढ़ाया जाएगा। बेसिक शिक्षा विभाग और एचसीएल फाउंडेशन की ओर से लखनऊ में दो दिवसीय राज्य स्तरीय कार्यशाला कराई गई। जिसमें विकास क्षेत्र कादरचौक के पूर्व माध्यमिक विद्यालय गंगपुर पुख्ता के

शिक्षक प्रवीण कुमार भी शामिल हुए। पूरे प्रदेश से 40 शिक्षकों ने पाठ्यक्रम को लेकर चर्चा की। कार्यशाला में उत्कृष्ट प्रदर्शन करने वाले शिक्षकों को ऑडियो, वीडियोयुक्त अध्यायों का डाटा, प्रशस्ति पत्र देकर सम्मानित किया गया।

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## Moments from the 2 Day Workshop



## Annexure

### Suggestive Agenda

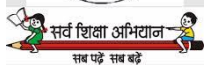
State level Workshop on

### Open Educational Resource Model in Uttar Pradesh

Date: 3<sup>rd</sup> Tuesday & 4<sup>th</sup> Wednesday, December, 2019

S.NO	Agenda/ Programme	Speaker/Facilitators	Time
<b>DAY 1</b>			
Registration and Tea & Breakfast			9:15am-10:15am
1.	Inaugural Session	Dr. Sarvendra Vikram Bahadur Singh Director, Basic Education, GoUP	10:30am-10:40 am
2.	Welcome Address	Ms. Sudha Project Coordinator, Government Relations, HCL Foundation	10:40am-10:50am
3.	Introduction & Context setting	Ms. Kirti Karamchandani Head- Government Relations, HCL Foundation	10:50am-11:00am
4.	Happy Schools: Integrating ICT to create an enabling learning environment	Ashish Kumar Singh Associate Sectoral Lead, Samuday, HCL Foundation	11:00am-11:20am
5.	Experiences from OER and Happy School: Pilot project	Mr. Hemant Rao BSA Hardoi, GoUP Mr. Yogesh Kumar Operations Head, Samuday, HCL Foundation	11:20am-11:40am
6.	<b>Offline OER Pilot:</b> Visualizing a repository of digital content for schools in Uttar Pradesh & its use by teachers	Ms. Supriya Jha, Associate Project Coordinator Samuday, HCL Foundation	11:40am-12:00pm
7.	Insights from KOER models & its relevance	Mr. Yogesh: Karnataka OER Model (IT for Change: Subject Matter Expert)	12:15pm-12:50pm
8.	Insights from ZIIEI, Innovative Paathshala, U.P (Aurobindo Society)	Mr. Mayank Agarwal  ZIIEI, Aurobindo Society	12:50pm-1:15pm
Lunch			01:15pm-01:45pm
8.	Transformation in Education: Process of change	Mr. Abdul Mubin Assistant Director- Basic Education, GoUP	01:45pm-2:00pm





9.	Quiz: OER portal awareness and accessibility	Mr. Maanavendra Singh Associate Sectoral Lead, Samuday, HCL F	02:00pm-02:30pm
10.	Offline OER Module: Collection of feedback on reviewed manuals of Grade 1-5 from task groups	Facilitator (Task groups)	02:30pm-04:30pm
Evening Tea			04:35pm- 5:15 pm
<b>DAY 2</b>			
Registration and Tea & Breakfast			9:00am-10:00am
11.	Recap of Day 1	Mr. Ashish Kr. Singh, Associate Sectoral Lead, Samuday, HCL Foundation	10:00am-10:30 am
12.	<b>Panel Review:</b> Consolidated presentation of feedback and input received on OER Manual  (Mapping content on the basis of 5E instructional model)	<b>Panelists:</b> Dr. Sarvendra Vikram Bahadur Singh, Director- Basic Education, GoUP  Ms. Lalita Pradeep, Additional Director, Basic Education, GoUP  Mr. Yogesh, IT for Change  Mr. Mayank Agarwal, ZIIEI, Aurobindo Society	10:30am-12:00pm
13.	<b>Panel Discussion:</b> Opportunities and Challenges in improving the access and quality of education in Uttar Pradesh:  Systemic response required to enable professional development of teachers & improved school environment  (To be moderated by Mr. Yogesh Kumar, Operations Head-Project, HCL Foundation)	Mr. Vijay Kiran Anand, State Project Director, Sarva Shiksha Abhiyan, GoUP  Dr. Sarvendra Vikram Bahadur Singh, Director- Basic Education, GoUP  Ms. Navpreet Kaur, Director, Samuday, HCL Foundation  Mr. Harshit Misra, Deputy Adviser, NITI Aayog, GoI  Prof P.K. Chaurasia, HOD, Dept. of Science & Mathematics, NCERT, GoI	12:00pm- 01:30pm



		Mr. Dattatraya Gokhale, Operations Head- Project, HCL Foundation	
14.	State Resource Group & Action Plan (Perspectives on OER Practices in state)	Ms. Lalita Pradeep, Additional Director, Basic Education, GoUP	01:00pm-01:30pm
Lunch			01:30pm-02:20pm
15.	Consolidated Learnings & Collaborative efforts required	Mr. Vaibhav Chauhan, Project Manager, Samuday, HCL Foundation	02:20pm-02:40pm
16.	Way Forward	Mr. Sarvendra Vikram Bahadur Singh Director, Basic Education, GoUP	02:40pm-03:00pm
17.	Vote of Thanks	Ms. Lalita Pradeep, Additional Director, Basic Education, GoUP	03:00pm-03:15pm
Evening Tea			3:30pm-4:15pm



## II. List of participants for the workshop:

Sl. No.	Teacher's Name	School's Name	Block	District
1	Ashuto Anand Awasthi (Principal)	U.P.S. Minaganj	Daliyabad	Barabanki
2	Rakharam Gupta (Assistant Teacher)	P.S. Bakaulipurwa	Belsar	Gonda
3	Ravi Kumar (Principal)	P.S. Bambhiya	Manikpur	Chitrakut
4	Ombir Singh (Principal)	U.P.S. Gadi Shyam	Kandhala	Shamli
5	Nareish Babu (Principal)	P.S. Mustabad	Township	Firozabad
6	Aashiya Faruki (Principal)	P.S. Asti	Township	Fatehpur
7	Virendra Shukla (Principal)	P.S. Bajhedha	Bihua	Lakhimpur Khiri
8	Md. Ishrat Ali (Principal)	P.S. Rajwana	Sultanganj	Mainpuri
9	Arunesh Pratap Singh (Principal)	P.S. Madhupur	Sangrampur	Amethi
10	Yatika Pandey (Assistant Teacher)	P.S. Kamalpur	Rajpur	Meerut
11	Dipshikha (Assistant Teacher)	P.S. Roja Jalalpur	Bisrakh	Gautambudhnagar
12	Khurshid Ahmad (Assistant Teacher)	U.P.S. Sahawa	Deshi	Dewriya
13	Manoj Kumar Singh ((Principal)	P.S. Seragopalpur	Pindra	Varanasi
14	Pravin Kumar (Assistant Teacher)	U.P.S. Gangapur Pukhta	Kadarchauk	Budaun
15	Ashish Chandra (Assistant Teacher)	U.P.S. Hasnapur	Mal	Lucknow
16	Manoj Mishra (Assistant Teacher)	U.P.S. Semra	Gagha	Gaurakhpur
17	Ashgar Ali (Assistant Teacher)	P.S. Shuklapur	Rudauli	Ayodhya
18	Surya Pratap (Principal)	P.S. Bhatwaliya Bankat Khotahi	Ramkoli	Kushinagar
19	Anju Gupta (Assistant Teacher)	P.S. Khamhaura Pratam	Mahua	Banda
20	Prem Kumar Verma (Assistant Teacher)	P.S. Baijnathpur	Jamunha	Shrawasthi
21	Harikant Sharma (Principal)	P.S. Mukhrai	Mathura	Mathura
22	Varsha Garg (Assistant Teacher)	U.P.S. Narayanpur	Swar	Ranpur
23	Tapashya Purwar (Principal)	P.S. Puretaudi	Dhih	Raibareilly
24	Priyanka Gupta (Assistant Teacher)	P.S. Gauyna (English Medium)	Hapud	Hapud
25	Hridesh Goswami (Assistant Teacher)	U.P.S. Nainawara	Maharauni	Lalitpur
26	Pratima Upadhyia (Principal)	P.S. Amritpali	Dubhar	Baliya
27	Satish Kumar Singh (Principal)	P.S. karauli	Pardha	Mau
28	Dr Khurshid Hasan (Assistant Teacher)	U.P.S. Hastinapur	Badagaon	Jhashi
29	Vaibhav Jaishvar (Assistant Teacher)	U.P.S. Kaich	Marauri	Pilibhit
30	Shriprakash(Principal)	P.S. Madiyahu Pratam	Ramnagar	Jaunpur
31	Rashmi Mishra (Assistant Teacher)	U.P.S. Maruana	Baba Belkharnath Dham	Pratapgad
32	Anant Kumar Shukla (Assistant Teacher)	P.S. Bhagauli Dehat	Maholi	Sitapur
33	Syed Tabbshum Salim	P.S. Nandadih	Uska	Siddharthnagar
34	Navin Kumar (Principal)	P.S. Baripur Mafi	Auraiya	Auraiya
35	Sandeep Srivastava ( Astt. Teacher )	P.S. Suthaina	Kachhauna	Hardoi



36	Rishi Dev Yadav (Principal)	P.S. Khajaona	Kachhauna	Hardoi
37	Doli Singh (Assistant Teacher)	P.S. Samspur	Kachhauna	Hardoi
38	Dhirendra Pratap Singh	P.S. Thangaon	Kothawan	Hardoi
39	Akansha Singh (Principal)	P.S. Jhroiya 2	Kothawan	Hardoi
40	Pratik Ashthana (Assistant Teacher)	P.S. Haidpur	Behendar	Hardoi
41	Radheyshyam Dixit	P.S. Kalyanmal	Kothawan	Hardoi
	<b>Resource Person</b>			
1	Sarvendra Vikram Singh	Director	Basic Education , GoUP	Lucknow
2	Ms. Laita Pradeep	Additional Director	Basic Education , GoUP	Lucknow
3	Yogesh K S	Technical Associate	IT for Change	Banglore
4	Mayank Agrawal	Technical Associate	ZIIEI , Aurobindo Society	Delhi
5	Vijay Kiran Anand	State Project Director	Serva Sikhsha Abhiyan, GoUP	Lucknow
6	Harshit Mishra	Senior Research Officer	NITI Ayog , GOI	Delhi
7	Hemant Rao	Basic Shiksha Adhikari	Basic Education , GoUP	Hardoi
8	Abdul Mubin	Additional Director	Basic Education , GoUP	Lucknow
9	P. K Chaurasia	HOD, Department of Science & Maths	NCERT , Delhi	Delhi
	<b>HCL Employee</b>			
1	Ashish Kumar Singh	Associate sectoral Lead	HCL Foundation	Hardoi
2	Supriya Jha	Associate Project Coordinator	HCL Foundation	Hardoi
3	Yogesh Kumar	Operation Head	HCL Foundation	Hardoi
4	Bhuwal	Associate Project Coordinator	HCL Foundation	Hardoi
5	Sanchita Malakar	Project Associate	HCL Foundation	Hardoi
6	Saem Hashmi	Associate Project Coordinator	HCL Foundation	Hardoi
7	Maanvendra Singh	Associate sectoral Lead	HCL Foundation	Hardoi
8	Mahendra Yadav	Associate Project Coordinator	HCL Foundation	Hardoi
8	Kamlesh Kumar	Associate Project Coordinator	HCL Foundation	Hardoi
9	Ashok Kumar	Associate Project Coordinator	HCL Foundation	Hardoi
10	Sereen Akther Chowdhri	Project Associate	HCL Foundation	Hardoi
11	Ashwani Kumar	Block Coordinator	HCL Foundation	Hardoi
12	Anam	Block Coordinator	HCL Foundation	Hardoi
13	Dattatray Gokhle	Operation Head	HCL Foundation	Hardoi
14	vaibhav Chouhan	Sr. Project Manager	HCL Foundation	Hardoi
15	Akshansh Akshat	Project officer	HCL Foundation	Hardoi
16	Kirti karamchandani	Head Government Relation	HCL Foundation	Hardoi
17	Anupama Anand	Associate Project lead	HCL Foundation	Hardoi
18	sudha Kumari	Project coordinator	HCL Foundation	Hardoi



### III. Results of clicker based quiz

Question	Respondent	Response rate
1. 1. क्या आप मुक्त शैक्षणिक संसाधन के बारे में जानते हैं ?	Respondent	Response rate
1 a) हाँ	31 Student(s)	62%
2 b) नहीं	4 Student(s)	8%
3 c) थोड़ी जानकारी है	8 Student(s)	16%
4 d) बहुत ही बार इस कार्यशाला के संदर्भ में ही सुना	2 Student(s)	4%
2. 2. क्या आप मुक्त शैक्षणिक संसाधन (OER) का उपयोग करते हैं ?	Respondent	Response rate
1 a) हाँ	37 Student(s)	74%
2 b) नहीं किया किन्तु मेरे विद्यालय में मेरे साथी अध्यापक करते हैं	3 Student(s)	6%
3 c) कभी-कभी करते हैं	4 Student(s)	8%
4 d) नहीं	1 Student(s)	2%
3. 3. यदि हाँ, तो मुक्त शैक्षणिक सामग्री के रूप में आप किस तरह कि सामग्री तलाशते हैं ?	Respondent	Response rate
1 a) ऑनलाइन	0 Student(s)	0%
2 b) ऑनलाइन	19 Student(s)	38%
3 c) ई-बुक	3 Student(s)	6%
4 e) अन्य (यदि आप यह उत्तर चुनते हैं तो दी गयी चिट पर विवरण लिखें)	14 Student(s)	28%
4. 4. आप मुक्त शैक्षणिक संसाधन (OER) पोर्टल पर किस विषय से संबंधित विषयवस्तु (कंटेंट) को उपलब्धता को चुनौती मानते हैं ?	Respondent	Response rate
1 a) हिन्दी	7 Student(s)	14%
2 b) इंग्लिश	4 Student(s)	8%
3 c) मैथ	16 Student(s)	32%
4 d) अन्य (यदि आप यह उत्तर चुनते हैं तो दी गयी चिट पर विवरण लिखें)	12 Student(s)	24%
5. 5. आप मुक्त शैक्षणिक संसाधन (OER) पोर्टल पर किस उद्देश्य से कंटेंट खोजते हैं	Respondent	Response rate
1 e) विषयगत स्पष्टता हेतु	21 Student(s)	42%
2 f) टीएलएम (TLM)	8 Student(s)	16%
3 g) संदर्भ सामग्री के रूप में	3 Student(s)	6%
4 h) टीचिंग पेडागोजी समझने के लिए	3 Student(s)	6%
5 i) मूल्यांकन हेतु	2 Student(s)	4%
6. 6. मुक्त शैक्षणिक संसाधन को उपलब्धता के संदर्भ में निम्न में से कौन सा तथ्य सबसे महत्वपूर्ण है ?	Respondent	Response rate
1 e) सामग्री (कंटेंट) की गुणवत्ता	20 Student(s)	40%
2 f) उपयोगी सामग्री (कंटेंट) की खोज में लगने वाला समय	5 Student(s)	10%
3 h) क्रापी राइट एवं डाउनलोड संबंधी मुद्दे	4 Student(s)	8%
4 i) अन्य (यदि आप यह उत्तर चुनते हैं तो दी गयी चिट पर विवरण लिखें)	2 Student(s)	4%
5 h) उपरोक्त सभी	7 Student(s)	14%
7. 7. क्या आप ने दीक्षा, नेशनल रेपोसिट्री ऑफ ओपन एडुकेशन रिसोर्स (NR OER), ई-पाठशाला आदि का उपयोग किया है ?	Respondent	Response rate
1 a) हाँ	41 Student(s)	82%
2 b) नहीं	1 Student(s)	2%
3 c) ज़ायद कभी	1 Student(s)	2%
4 d) कभी नहीं	0 Student(s)	0%
8. 8. आप मुक्त शैक्षणिक संसाधन के उपयोग संबंधी किन चुनौतियों का सामना करते हैं ?	Respondent	Response rate
1 a) बहुत पूर फ्रेंडली नहीं है	1 Student(s)	2%
2 b) ऑनलाइन / इंटरनेट कनेक्टिविटी	15 Student(s)	30%
3 c) अपडेट नहीं रहता है	3 Student(s)	6%
4 d) बुस्तको/ पाठ्यक्रम के अनुरूप नहीं मिलता है	16 Student(s)	32%
5 e) अन्य (यदि आप यह उत्तर चुनते हैं तो दी गयी चिट पर विवरण लिखें)	3 Student(s)	6%
9. 9. आप मुक्त शैक्षणिक संसाधन का कौन सा लाइसेन्स उपयोग करते हैं ?	Respondent	Response rate
1 a) सामान्य सॉफ्टवेयर	12 Student(s)	24%
2 b) ब्रेटलेक्चरल प्रॉपर्टी राइट	1 Student(s)	2%
3 c) क्रिएटिव कामन लाइसेन्स	18 Student(s)	36%
4 d) क्रापी राइट लाइसेन्स	6 Student(s)	12%
5 e) अन्य (यदि आप यह उत्तर चुनते हैं तो दी गयी चिट पर विवरण लिखें)	1 Student(s)	2%
10. 10. क्या आप कक्षा में किए गए नवाचार को रिकार्ड / डाक्यूमेंट (दस्तावेजीकरण) करते हैं ?	Respondent	Response rate
1 a) हाँ नियमित करते हैं	20 Student(s)	40%
2 b) कभी-कभी डाक्यूमेंट कर लेते हैं	12 Student(s)	24%
3 c) डाक्यूमेंट करके सोशल मीडिया पर अपलोड करते हैं	8 Student(s)	16%
4 d) नहीं	1 Student(s)	2%
5 e) अन्य (यदि आप यह उत्तर चुनते हैं तो दी गयी चिट पर विवरण लिखें)	1 Student(s)	2%
11. 11. आप शैक्षणिक विडियो खोजने या अपलोड करने के लिए किस प्लेटफॉर्म का उपयोग करते हैं ?	Respondent	Response rate
1 a) यू-ट्यूब चैनल	25 Student(s)	50%
2 b) बीक्षा ऐप	8 Student(s)	16%
3 c) नेशनल रेपोसिट्री ऑफ ओपन एडुकेशन रिसोर्स (NR OER)	2 Student(s)	4%
4 d) ई-पाठशाला	1 Student(s)	2%
5 e) अन्य (यदि आप यह उत्तर चुनते हैं तो दी गयी चिट पर विवरण लिखें)	3 Student(s)	6%
12. 12. आप को समझ से मुक्त शैक्षणिक संसाधन को शिक्षकों के बीच और अधिक प्रचलित व उपयोगी बनाने के क्या तरीके हो सकते हैं ?	Respondent	Response rate
1 a) नियमित विभागीय शिक्षक प्रशिक्षणों में चर्चा एवं उपयोग	8 Student(s)	16%
2 b) शिक्षकों के लिए ऑनलाइन प्रशिक्षण एवं सर्टिफिकेट कोर्स	10 Student(s)	20%
3 c) शिक्षकों का ब्लॉक, जिला एवं राज्य स्तर पर समूह बना कर चर्चा एवं उपयोग	14 Student(s)	28%
4 e) अन्य (यदि आप यह उत्तर चुनते हैं तो दी गयी चिट पर विवरण लिखें)	3 Student(s)	6%
13. 13. क्या आप शिक्षकों के लिए मुक्त शैक्षणिक संसाधन के संदर्भ में ऑनलाइन प्रशिक्षण पोर्टल की आवश्यकता महसूस करते हैं ?	Respondent	Response rate
1 a) हाँ	37 Student(s)	74%
2 b) नहीं	1 Student(s)	2%
3 c) क्षता नहीं	0 Student(s)	0%
4 d) क्षता नहीं	0 Student(s)	0%
14. 14. शिक्षकों के लिए OER के संदर्भ में ऑनलाइन प्रशिक्षण कोर्स कैसा होना चाहिए ?	Respondent	Response rate
1 a) स्वेच्छक	17 Student(s)	34%
2 b) अनिवार्य	8 Student(s)	16%
3 c) सेवा पूर्व प्रशिक्षण का हिस्सा	5 Student(s)	10%
4 e) सेवाकालीन प्रशिक्षण का हिस्सा	13 Student(s)	26%

## OER QUIZ

Clicker based quiz conducted on awareness about OER was conducted on Day 1 of the workshop. This clicker tool is a Samsung led initiative, Tag Hive which helps in collecting real time response of the audience.

Based on the findings, it came to notice that the teachers have been using OER through different mediums.

Their viewpoints gave us an overview of their overall understanding and perceptions regarding usage, implementation and challenges related to open source content.





#### IV. Feedback form

After the 2-day workshop we collected feedback from participants where we asked them about their experiences. We received positive response from them and appreciated the sessions by all resource person as well as the panel discussions. They also mentioned that in future they would like to be a part of such workshops because it creates a knowledge sharing platform and helps them enhance classroom practices. Given below is a snapshot of the feedback form that was shared with the participants.

##### Feedback Form for Workshop on Open Educational Resources

1. आपको यह कार्यशाला कौन सी विषयवस्तु आपको सबसे अधिक रोचक लगी ?

2. रिसोर्स पर्सन द्वारा दिया गया कौन सा सत्र आपको सबसे अच्छा लगा ?

3. प्रयुक्त शैक्षणिक सामग्री आपको कैसी लगी ?

4. भविष्य में इस प्रकार की कार्यशाला को आप लेना चाहेंगे ?

5. कार्यशाला को और अधिक ज्ञानवर्धक बनाने हेतु आपके सुझाव ?

6. कार्यशाला को और अधिक ज्ञानवर्धक बनाने हेतु आपके सुझाव ?