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THE PEOPLE'S UNIVERSITY

" Exploration is the engine that drives innovation. Innovation drives economic growth."
- Edith Widder

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Innovation Awarded with Gold Medal
Integrated Open and Distance Learning through ICT for Sustainable Development

Introduction

Learners today are 'Digital Natives' who comprehend and analyze information fundamentally differently from 'Digital Immigrants'. They are socially more interactive and engaged in team-based activities. They prefer informal learning communications such as e-mail, text messages, instant messages, etc. The distance in distance education paradigm needs to be bridged by technology. Various innovative initiatives have been taken by the Uttarakhand Open University (UOU) by the effective application of technology to support personalized, flexible, portable, and on-demand delivery of learning and providing quality educational opportunities to its learners in order to achieve its mission of equity, access and democratization of education more effectively.

About the Project

Under the project "Integrated Open and Distance Learning through ICT for Sustainable Development" we first tried to explore the status of infrastructure facilities, teaching-learning process, students' and teachers' status, learning outcome, financial status, students' views on various aspects, and attitude of teachers towards Open Educational Resources as well. Apart from students' and teachers' data, other baseline data is derived over the last three years i.e. between 2014-17, wherever necessary, so that a clear picture of UOU can be demonstrated.

Based on the baseline study, which demonstrated the clear picture of University, a clear plan was developed for next three years in which all the ICT enabled best practices, exercised by Institutions in India and abroad were identified and were integrated in the plan. The main components of the whole plan included the following:

- Designing, developing and hosting a web interface along with Moodle LMS including app customization for content delivery and learner support including career counselling;

- Organising Training workshop on development of SLM/learning materials using OERs and development of Online course using Moodle LMS to build the capacity of the teachers;

- Developing 9 (nine) courses with four-quadrant, for Certificate in Computer Application (CCA), Diploma in Information Technology and Certificate in E-Governance Technology and Cyber Security (CEGCS) in Moodle LMS and offering for learning;

- Offering free non-credit online courses, to promote computer literacy and create mass awareness about cyber security practices, through blended learning including Online learning with continuous academic learning support to the learners using Moodle LMS;

- Providing ICT based learner support services to the students for increase in learning outcome and improves their employability.

- Conducting a Research and Monitoring Evaluation to find out the status of learner's enrolment, completion of the course, status of learning outcome and employability etc.;

Description of the Innovation

Taking the help of the technology, electronic learning materials in the form of e-learning modules and pre-recorded lectures are developed. These learning resources are provided complementary to the SLMs to further enrich the learners' knowledge. The faculty preparing the electronic learning materials are those who had prepared the SLM in the print form. The e-learning modules are offered through the customized Moodle LMS which can be accessed at: elearning.uou.ac.in. Additionally, to support m-learning, MOODLE App is customized. ICT based learner support services (online counselling, expert guidance, etc.) were also provided to the students for increase in learning outcome and improve their employability. An OER repository was also created to provide all course learning materials on one device to make it easier for students - an important factor for its many part-time students who combine studying for a degree with full- or part-time work. The repository and apps streamlined all the different course resources into a single interface and allow the learners to access their course materials through their handheld devices, along with the audio and visual content the University produces to support studies. Hence, this innovation utilized ICT as a tool for designing, developing and dissemination of the online courses and provides learning support services. It also helps in continuous monitoring of learners' activities which helps the teacher to clear the difficulties faced by the learner and hence resulted in decreasing the drop-out rate in online courses.

For implementation of this innovative project, first of all a baseline study was conducted to know various colors of university including academic and administrative information with attitude of teachers and students towards digital context of teaching-learning which is the need of time. The students of the university reported positive attitude towards mobile-learning and are mobile-savvy which is an indicator for the university to switch to mobile enabled learning platforms for content delivery. They can experiment with innovative approaches such as Moodle, MOOCs, other-content platforms and connect with the students through social networking for sending and receiving academic updates. Thus, Moodle LMS was customized to offer online courses. It also includes app customization for content delivery and learner support.

Thereafter, training workshop were organised for faculty members and online educators on development of SLM/learning materials using OERs and Moodle LMS.

In the next face development of Learning support material for 9 courses of CCA, DIT and CEGCS (text, video, Q/A, PPT, Evaluation Questions) in Moodle LMS and offering for learning as taken up. The video lectures were recorded in Hindi and the supplementary learning material is provided in English language.

Support service is important component for any online course. Participants were provided with ICT based support services such as discussion forum, online chat and email which helped the participants to achieve the learning outcomes. Research and Monitoring Evaluation was also conducted to find out the status of learner's enrolment, completion of the course, status of learning outcome and employability etc.

Innovative Features

The whole scheme of providing integrated open and distance learning through ICT has several innovative features. Some of them are listed below:

- Given the diverse linguistic capabilities of the Indian population, around 10% of the Indian population speaks English. Hence, preparing the e-contents and digital platforms in English will exclude the vernacular speaking population. Therefore, all the lectures recorded in vernacular language i.e. Hindi.

- The innovation resulted in the reduction of carbon-footprint as more and more learners are encouraged to opt for the e-copy of the SLM.

- Subject matter experts were available as course coordinators, including UOU teachers/ staff for running the course on Moodle and offering expert guidance to the learners for the course duration.

- ICT based learner support services provided to the learners helped them to achieve the learning outcomes of the course.

- The issue of late dispatch of SLM is addressed by creating the online repository.

- Capacity building of the faculty members on development of SLM OERs and development of online courses made the innovation sustainable and scalable as the trained faculty members started contributing to the e-learning platform by developing courses on their respective fields.

- Some of the participants posted job-opening of their organization in the announcement and the discussion forum of the platform. Thus, this innovation also helped the learners to search for the suitable jobs in the portal.

Applications and Uses of the Innovation

The Online courses developed under this innovation are the massive course designed to support unlimited (logically) participation and are offered through a Moodle LMS platform. In 2018, approximately 3000 (three thousand) students were registered for the 9 (nine) MOOC courses offered through this platform. As of February 2019, there are approximately 19000 registered learners enrolled in approximately 25 (twenty five) courses. These online courses can be used as a supplementary course material for the courses offered by the University on the related subject.

9 online courses were developed for the subjects like computer fundamentals, cyber security, etc. These courses were offered as free non-credit skill development online courses using the Moodle LMS platform in 2018. Certificate of completion was issued by the University, which was signed by the course coordinator, to all the learners who have successfully completed the course requirements. The courses became very popular and invited attention of decent number of learners. This motivated other faculty members of the University to develop the MOOCs for their respective subjects. Currently the University has MOOCs on subjects like Yoga, Sanskrit, Tourism

Management, IPR, etc. developed by faculty members of the University.

All the faculty members of the University are trained on OER and Online Course Development skills by conducting a series of workshops at the initial state of the project so that at the later stage they could also contribute online courses for the e-learning platform. An Institutional OER repository is created to increase access to learning with ICT based learner support;

Students enrolled for the various courses in the University are now opting for the e-copy of the study material, which is helpful in reducing the carbon footprint. It also facilitates the timely delivery of the study material. It is important to mention here that as per Census – 2011, Uttarakhand have a decent base of mobile users with 68.4% of the population uses mobile phone. In such a scenario, an ODL system can play a vital role using digital technologies to reach those who are difficult to reach through various ICT initiatives. Moodle app was customized to support m-learning.

All the material developed under this innovation is hosted on the Moodle based e-learning platform and is released under Creative Commons license. This not only facilitates the sharing and adoption of the materials by other Institutions (the material is adopted by 5(Five) Universities/ Institutions) but also makes it possible to integrate existing OERs available in many course repositories like NPTEL, WIT-Solapur e-learning portal, etc. 9 (Nine) courses were developed using the funds provided by the external funding and remaining 16(Sixteen) courses are adopted from different sources which are available as OERs. All the courses offered using this platform are free of cost to facilitate lifelong learning.

While taking about the Achievements of the Innovation, it can be reported that 45 ODL faculties and functionaries have now enhanced capacity for the development of course contents as OER and delivery through online learning. This not only resulted in the capacity building of the faculty members but also increase their confidence to offer an online course. An on demand course was also developed and offered by one of the faculty member of the University. The course was developed on the request of the Principal of Welhem's Girls School, Dehradun and it aimed at creating awareness about OERs, Computer Ethics and Cyber Security for students.

Besides it, 09 courses of 03 programmes have been developed and piloted to improve employability; 3000 learners including marginalised youths and women have enrolled and completed tertiary education and have improved their employability; The course material developed under this innovation, specially the course material for cyber security, is now being adopted and used my many Universities like Dr. Babasaheb Ambedkar Open University, Ahemdabad, Odisha State Open University, Odisha, Netaji Subhas Open University, Kolkata, etc.

In order to increase learning outcome and improve the employability, ICT based learner support services was provided to the learners. Currently there are approximately 30 faculty members of University and other Institutions/ Scientist from Ministry of Communication & IT/ Officers from Ministry of Defence/ Professionals from Industries who are volunteering to provide the learner support as subject matter experts.

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