

EDUCATIONAL TECHNOLOGY AND ICT

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Lecture-22

Module-22: NME-ICT

Hello dear learners, welcome to the SWAYAM-NPTEL course on Educational Technology and ICT. I am Dr. Sarita Anand from the Department of Education, Vinaya Bhavana, Visva-Bharati, Santiniketan, West Bengal, India. Today, we will talk about module 22 on NME-ICT; this is lecture 22. We have already covered concepts like the basics of ICT, the origin and growth of ICT, traditional and modern ICTs, major ICT tools and applications, ICT skills, and the areas of ICT applications.

Now, we will talk about NME-ICT, which is the National Mission on Education through Information and Communication Technologies. It has been introduced as a centrally sponsored scheme to utilize the potential of ICT in the teaching and learning process for the benefit of all learners in higher education institutions and schools in an anytime, anywhere mode.

It is an initiative by the government of India. For education through the use of ICT, launched on February 3, 2009, by the Ministry of MHRD, the Ministry of Human Resource Development, now called the MOE, Ministry of Education. NME-ICT aims to bridge the digital divide and provide equitable access to education for all learners across India, particularly in rural and underserved areas and remote areas. The mission focuses on integrating ICT tools into education, ensuring digital resources are accessible to both students and teachers.

This was expected to be a major intervention in Enhancing the gross enrollment ratio (GER) in higher education by 5 percentage points during the 11th Five-Year Plan period of India. When you click on the NME-ICT website, you will get this page. The Ministry of Education, Government of India, Department of Higher Education has this page: National Mission in Education through ICT. It will look like this; I have provided a screenshot here.

The three cardinal principles of education policy; access, equity, and equality could be served well by providing connectivity to all colleges and universities, low-cost and affordable access to computing devices for students and teachers, and providing high-quality e-content free of cost to all learners in the country. This was the goal. NMEICT has all three elements, and the mission has two major components. The first one is providing connectivity along with the provision of access devices to institutions and learners, and the second one is content generation.

It seeks to bridge the digital divide, the gap in skills to use computing devices for teaching and learning among urban and rural teachers and learners in higher education and empower those who have difficulty remaining untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy. It plans to focus on appropriate pedagogy for e-learning, providing facilities for performing experiments through virtual laboratories, online testing, and certification.

Online availability of teachers to guide and mentor the learners, utilization of available educational satellite we call it EduSat and the direct to home DTH services or the platforms training and empowerment of teachers to effectively use the new methods of teaching and learning etc. For more details, we can go to the NME-ICT website; we just have to click on the link. However, we will do a virtual visit of this website later after completing this lecture.

This is when you will click on the link you will find this page this is the screenshot of the NME-ICT page and the main objective of NME-ICT mission national mission on education through ICT is to enhancing the teaching learning process. It aims to facilitate and enhance the teaching learning process by leveraging the technology. It gives the emphasis on the technology and integrate the digital tools such as multimedia e-learning platforms and virtual classrooms into the curriculum; thus, it is enriching the learning experiences of the learners and the teachers. Another objective is to improving the access to educational resources.

The mission works to provide equitable access to the educational resources especially to the marginalized and the rural population. This involves the development and dissemination of free and open educational resources, e-content and MOOCs, massive open online courses that can be accessed by the anyone with an internet connection. Development of e-content which right now I am doing and representing in in front of you the one of the major achievements of this NME-ICT initiative is to development of digital

contents for various subject across different level of education. This content is available in multiple languages to cater the diverse population of India.

Teacher training and capacity building. NME-ICT focuses on the teacher education and the training through ICT based methods. Programs such as e-content development workshops, ICT based teacher training programs and online certification course aim to improve the digital literacy of teachers to empower them to use the technology in their classroom effectively. The next objective is national digital repository and virtual lab. The mission also includes the the creation of national digital repository where all digital content and resources can be stored and accessed.

It has led to the establishment of virtual labs, which provide students with practical experiences in various scientific and engineering fields that may not be available in physical laboratories. The next objective is to strengthen education through e-governance. NME-ICT also supports the digitization of educational administration and governance, making processes more transparent and efficient. This includes the development of e-admission systems, online examination platforms, and digital student records, which we are currently doing with the help of Samarth and the next one is promoting online learning and MOOCs.

The initiative significantly contributes to the growth of online learning in India. Platforms like SWAYAM offer MOOCs on various subjects, such as the SWAYAM NPTEL course, where you are currently sitting and listening to the lecture. These platforms are designed to make high-quality education accessible to students across the country. Now, we will talk about the major initiatives under the NME-ICT.

SWAYAM, we all know SWAYAM, was started in 2016. I will not go into detail about Swayam because you all have experience with it. Its objective was to provide equal opportunities to disadvantaged groups to access the best teaching and learning resources. SWAYAM enables learners to take courses anytime, anywhere, and offers certification upon successful completion. Swayam Prabha is another initiative and one of the dream projects of the Indian government, like SWAYAM. It was started on 9th July 2017, whereas SWAYAM was started in 2016. It provides 32 high-quality educational channels through DTH platforms like Doordarshan. So, door-to-home service provides high-quality videos to learn different courses.

It provides the educational classes every day at least 4 hours which would repeat 6 times in a day. It allows the students to choose their learning time and for preparing the

learning content MHRD or now the MoE like CEC, IGNOU, IITs, NIOS and NCERTs are working for Swayam Prabha. The next initiative is National Digital Library. This NDL or National Digital Library is also the initiative of Ministry of Education under NME-ICT is the collection of open and free access textbooks, articles, videos, audio books, lectures, simulation etcetera kept here in this NDL. People can access NDL via mobile phone or android services or the Google play stores they can download. The contents are available in different languages and it is managed by the IIT Kharagpur taking this responsibility of NDL.

Next one is the NAD, National Academic Depository. NAD is the abbreviation of National Academic Depository, it is initiative for the purpose of academic record keeping under the Ministry of Education, Government of India. NAD is digital database system, academic awards like certificates, mark sheet or any degree or course also facilitate digital assurance and access and verification logged by the academic institutions or the boards or the eligibility assessment bodies.

Simultaneously, this depository validates and guarantees the authenticity, integrity and confidentiality and safe storage of the database. The authorization of implementation of NAD has been taken over by the UGC as a permanent scheme of Digi locker. You all are having your Digi locker and now the ABC account is associated with this Digi locker. You all are aware about this concept.

All the students are having their own ABC account. The next initiative is E-PG Pathshala. E-PG Pathshala is the gets the free books curriculum-based e-content it provides. Initiative was also taken by the government of India and the under the NME-ICT being executed by the UGC. It is gateway for curriculum based high quality interactive e-contents in 77 different subjects.

Students or researchers from all disciplines like social science, linguistic, languages, arts, fine arts, humanities, education, natural mathematics, sciences or are free to access the portal and the application. The next initiative is Shodhganga. It is the reservoir for Indian thesis at INFLIBNET. It is digital repository for electronic thesis and dissertations to Indian universities.

Actually the Ph.D. doctoral dissertations It provides a platform for research student to deposit their Ph.D. thesis and make it available to the entire scholarly community in open access. The INFLIBNET centre of UGC which is an autonomous inter university center has been devoted to taking over the responsibility of maintaining this Shodhganga. Another

authority over the repository given to the INFLIBNET that is Sodhgangotri which is reservoir for research proposals and synopsis of the PhD program in Indian universities.

The next initiative is e- SodhSindhu. This e-Shodh Sindhu is initiative also by the MHRD now MoE under the NME-ICT. This project work as an aggregator of electronic journals from December 2015 onwards. Based on the expert recommendation, e-SodhSindhu was formed with the merger of three consortia, namely UGC-INFONET, Digital Library Consortium and N-LIST (National Library and Information Services Infrastructure for Scholarly Content), INDEST-AICTE Consortium. All three consortium make one platform that is e-SodhSindhu.

The next one is E-Yantra. E-Yantra is also a government of India's initiative ah under NME-ICT program for enabling the effective education through existing hands-on learning experiments in mathematics, natural sciences, agriculture, computer sciences and engineering discipline. Basically, it is field of technology. E-Yantra also helps institutions to set up robotics labs, clubs to make it a part of their routine training curriculum. E-Yantra is a robotic outreach program funded by this ministry and hosted by IIT Bombay.

The goal is to harness the talent of young engineers to solve the problem using technology across a variety of domains such as Agriculture which I have already mentioned, manufacturing, defense, home, smart city, maintenance and service industry. This E-Yantra also provides the E-Yantra MOOC. This is important. e-Yantra MOOC is an online platform developed to offer massive open online courses for the students or the working professional from varying background under E-Yantra.

The next initiative is FOSSEE. This project under NME-ICT, under the Ministry of Education, Government of India, FOSSEE abbreviation stands for Free and Open-Source Software for Education, which promotes the use of tools in academic and research. The project was sanctioned to the Indian Institute of Technology, IIT Bombay, to work on adaptation and development of open-source software simulation packages equivalent to proprietary software. There are multiple projects promoting the use of open-source software in educational institutions by FOSSEE. Scilab, Python, eSlim, Osdag, OpenFOAM, and many more are listed. You can visit the website to get the essence of this FOSSEE.

The tenth is the Spoken Tutorials. This initiative is a 10-minute audio-video tutorial on open-source software created to teach students essential IT topics. Spoken Tutorials are created for self-learning, using pedagogical techniques developed by IIT Bombay. The

spoken sections of these tutorials are dubbed in all Indian languages to assist young people who are susceptible in English. Using a collection of such tutorials, one can learn even a complicated IIT topic easily in their own language. The important objective of this Spoken Tutorial initiative is to improve the employment possibilities of students.

The next initiative is Virtual Labs. These Virtual Labs were also established under the NME-ICT. The project aims to provide access to web-enabled laboratory experiments. Designed for remote operation in various disciplines of science and engineering, from undergraduate to Ph.D. programs. Virtual lab is an interactive simulation environment which enables the student to learn at their own pace and motivates them to conduct experiments. This platform provides an out and out learning management systems which avails various tools for learning. Video lectures, animated demonstrations, and self evaluation for the students in science and technology discipline too.

The next one is eGyanKosh a national digital repository to store the index preserve distribute and share the digital learning resources developed by the open and distance learning institution in India.

Next is National Repository of Open Educational Resources (NROER), National Repository for OER. NROER is another initiative this platform for teachers and student to share the access educational content freely. It houses a wide variety of resources including text, audio, video, simulations, aim to improving teaching and learning practices in Indian schools and higher education institutions. NME-ICT initiative also provides the ICT for school education.

Under this initiative, there are programs like NISTHA, (National Initiative for School Heads and Teachers, Holistic Advancement), focuses on integration of ICT in teaching and providing teachers with digital tools and platforms to enhance the classroom engagement and learning outcomes. We also should know that there was a Sakshat portal. To showcase the ICT initiative under NME-ICT a comprehensive portal was there designed to provide the access to educational resources, e-books, e-journals and other learning materials for students and educators. in virtual world you can find the Sakshat portal, but this Sakshat portal is now not functional, but earlier when it was functional before COVID, I had seen that Sakshat was providing the information regarding the ICT initiative by the government of India.

These initiatives reflect the government's commitment to integrating the ICT into educational systems to enhance the learning outcomes and bridge the digital divide. Many

other initiatives are there which we will see at the time of website visit give list is so long. Now the limitation. every as every concept has its limitation like the enemy ICT also digital device every ICT enabled ah process or the system is having this basic ah problem or the limitation like digital divide. A bridging the gap by the internet services or the technology remains a challenge in some rural or remote areas.

The lack of digital infrastructure in these areas limits the full potential of the mission. Teacher's readiness despite the various teacher training programs the actual adoption of ICT in the classroom depends on the largely on teachers' willingness and readiness to embrace the technology. Not all teachers are comfortable with using these ICT tools this is the limitation of enemy ICT. Internet connectivity issue, yes in rural areas even in the cities intermittent or slow internet connectivity can hinder the effective delivery of online education. This problem persists despite the growth in internet infrastructure everywhere.

Now, we will go further visit the website of NME-ICT. Let us visit the website to go through the whole Let us visit the website of NME-ICT I am clicking the website it will take time yes. This is the NME-ICT website by the Ministry of Education Government of India you can see whatever initiatives I have mentioned you can see here is the document of ICT initiative.

We will explore the one by one like if, I click on the home this is the home page. Now, about us you can see the NME-ICT concept is showing NME-ICT phase 1 and phase 2 different videos and contact details are there. If you go through the NME-ICT page too you will find one document which is showing that the last meeting about the NME-ICT was held in 2019. It means it is not updated because new terms, new things, new concepts, and new websites have come. So, they are not updating it; you can also go through this. So, some course running here is notice this notice you can see that this notice is showing 2020. It means June after June 2020 there is no updation.

Now, go to the school facility. If you see the SWAYAM facility SWAYAM, Swayam Prabha, NDLI National Digital Library of India spoken tutorial I have mentioned and the NISHTHA. It covers the school system. Now, the undergraduate system you can see all these facilities which I have mentioned are here.

The Samarth portal is there which we can understand you are all are using the Samarth. The Vidwan, Vidwan is used by the teachers and the e-GYANKOSH, I have already mentioned and one thing is that Badal, Badal is not functional. I have check it so, I will not waste the time Badal is not functioning. Then post graduate everything is the same as a

undergraduate courses all the initiatives are mentioned here you can click and it will be open. Then comes the other online learning platforms like IIT Badal.

IIT Box and IIM box, electronic ICT, NROAR, DIKSHA. DIKSHA is there. We will go through DIKSHA at another time. SHAGUN is not functional; e-Pathshala is functional. Video conferences and LMS are mentioned here on this platform. So, we will open any one platform. So, I will open here. I can open any of these, OK? I will open this e-Yantra.

So, you can go through it and understand how it works. I hope it is opening. Maybe eYantra clicking it will take time, I think. OK, learn robotics. This is the page of e-Yantra. Similarly, you can click on the link and go through how it is working. I have mentioned that the MOOC of E-Yantra. You can also go through that.

A good learner is the person who is going through the exploration. You all must explore these facilities by the Government of India because so much money is exhausted here. This is the E-Yantra MOOCs, and you can click on it and go through it. So, I will go back to the NME -CT page and request you all to go through these pages. You can find out that there are so many initiatives and information to know about the government's initiatives and money spent on these projects and the mission. So, again, we will go to our presentation. Where had we stopped? I will go through the direct conclusion. This is the conclusion page. The National Mission on Education through ICT has played a transformative role in enhancing education in India. By integrating technology into education, it has made learning more accessible, engaging, and flexible. Continued efforts are needed to address the challenges.

If this website is not functional, they may be making it functional or otherwise they have updated it in other forms like different websites such as NISHTHA, DIKSHA, SWAYAM, or Swayam Prabha. That is why maybe they are not updating it. But the importance of NME-ICT remains intact, as it is providing the effort made till date. Through NME-ICT, much reach must be extended to all students across the country. There are some references for your further reading, and thank you. Happy learning.