

# **EDUCATIONAL TECHNOLOGY AND ICT**

**Dr. Sarita Anand**

**Department of Education, Vinaya Bhavana**

**Visva-Bharati, Santiniketan**

**Week-08**

**Lecture-38**

## **Module-38: EDUSAT and Swayam Prabha**

Hello dear learners, welcome to SWAYAM-NPTEL course on Educational Technology and ICT. I am the course coordinator, Dr. Sarita Anand, from the Department of Education, Vinaya Bhavana, Visva-Bharati, Santiniketan, West Bengal, India. Today, we will talk about Module 38 on EDUSAT and SWAYAM Prabha. This is Lecture 38, and before going into the lecture, we will see the concepts covered. We have earlier covered teleconferencing, the evolution of teleconferencing, types of teleconferencing, AI technologies in teleconferencing or video conferencing, different teleconferencing apps and platforms for large-scale virtual meetings, conferences, or webinars. We had also discussed the advantages of teleconferencing.

Now, let's talk about EDUSAT. EDUSAT is an educational satellite. This is a screenshot of the EDUSAT website, which is governed by ISRO. We will talk about EDUSAT in detail. This EDUSAT is actually the GSAT-3. Its name was GSAT-3, known as EDUSAT, which is an educational satellite meant for distant classroom education from school level to higher education.

This was the first dedicated educational satellite that provided the country with satellite-based two-way communication to classrooms for delivering educational material. It was launched by the Indian Space Research Organization (ISRO) on September 20th, 2004. EDUSAT aimed to provide distance education, virtual classrooms, and e-learning resources to rural and remote areas across India. It played an important role in bridging the digital divide by offering interactive and multimedia-based education to students who lacked access to quality educational institutions.

So, important fact about the EDUSAT, it was launched in September 20 2004 launched by ISRO, the vehicle the scientific term was GSLV F01 and its mission was education mission

duration was 10 year initially it was planned for 7 year and then increased to 10 year orbit was geostationary orbit 74 degree east longitudinal this is scientific term which I got from the website and the coverage area was entire India and primary users were the school college and university and technical institution and rural education centers the learners and the teachers. So, what was the objective was EDUSAT, the main goal of EDUSAT was to expand the access to quality education across India and especially in rural and remote area and behind this EDUSAT there was the concept of professor Marmar Mukhopadhyay and the people from the IGNU. So, their contribution was there behind this EDUSAT concept. So, it was having the objective of enhancing distance learning.

Providing centralized based interactive educational education to schools to higher education institutions. Supporting rural education offering the students in villages where teachers and resources were limited. The facilities facilitating the teacher training by using this concept of EDUSAT with the help of the facility teacher training programs through virtual lectures and interactive session can be organized. It was having the objective about the providing multimedia education using audio video and digital tools for effective learning. It was also having the aim objective for the promoting e-learning and digital classrooms, creating virtual classroom through satellite connectivity.

So, the main feature of the EDUSAT were the integration with the educational institution. It was connected with the schools, colleges, universities and vocational centers with the state of art digital learning facilities. It had partnered with the organization like IGNOU, NCERT, AICTE and other academic bodies. Affordable and wide accessibility. The cost-effective education delivery system was there with the help of EDUSAT.

It covered the rural, remote, and underprivileged regions where traditional educational facilities were limited. With high bandwidth and dedicated coverage, it was equipped with Ku-band and C-band transponders to enable nationwide educational broadcasts. It provided high-quality video conferencing and an e-learning platform. The multi-channel interactive network was also an important feature of EDUSAT, providing two-way communication that allowed students to interact with teachers in real time. Whenever the class was live telecast, students could interact with the teachers.

It supported tele-education hubs, which connected multiple institutions through satellite links. The application of EDUSAT was utilized by schools and higher education institutions, including government schools, private institutions, and rural areas, supporting interactive digital classrooms where students could attend live or recorded lectures. It also

provided the facility of professional and technical education. It benefited engineering, medical, and management students through specialized courses delivered via satellite, enabling online practical demonstrations and technical skill development.

The next one is vocational and skill-based training. It also facilitated entrepreneurship, agriculture, and IT skills development programs for rural youth and provided job-oriented courses to enhance employability. Special education and inclusive learning. It offered education for differently-abled students through designed e-learning modules, delivery of multimedia content with subtitles, sign language support, and audio-based learning tools. It also had teacher training and faculty development programs, providing training for teachers to improve teaching methodologies and pedagogical skills, assisting in curriculum development and evaluation through expert interaction. So, the course content or the program developed for teacher training was available for teachers to utilize and be trained.

So, importance of the EDUSAT in Indian education. Whenever we will talk about the bridging the gap of the urban and rural, then we have to take the name of EDUSAT. It has the goal and importance to fill up this gap. They connected the remote areas with the leading academic institution and provided equal learning opportunities to the students in rural and urban regions.

It enhances the digital learning infrastructure. Strengthen the India's e-learning ecosystem with satellite-based education and supported virtual classroom and online teacher training programs without the use of internet because it was telecast with the help of educational satellite. The cost-effective educational model. It reduced the cost of physical infrastructure by offering digital and remote learning solution. educational institutions to save the travel and accommodation cost for the teachers as well as the students.

It revolutionized the distance education. Initially its aim was behind this distance education. It improved the access to higher education through the partnership with the IGNOU, AICT, UGC, etc. Encourage the lifelong learning through open and flexible educational models. But definitely there are challenges in every aspect of the life EDUSAT has also the challenges regarding the technical malfunctions and the satellite life constraints.

EDUSAT lifespan was limited and technical issues reduce its efficiency in later years. Lack of awareness and adoption many schools and colleges did not have the infrastructure to assess the EDUSAT services. So, that is why the course content offered on the educational channels was not reaching to the rural areas or the schools. So, connectivity issues some

remote areas struggle with the signal reception and technical maintenance problem. Funding and sustainability the project required continuous funding for satellite maintenance and the content development in the limited interactivity although it offered interactive learning two-way communication was restricted in the many areas. So, if the EDUSAT was being utilized by the teachers by the government then why it is stopped at present EDUSAT is stopped and there is a successor of this EDUSAT who is that? the successor and the future development of this EDUSAT is the Swayam Prabha.

After

completion of EDUSAT mission that was educational mission India launched new initiative enhanced satellite-based education and satellites like GSAT-6, GSAT-7, GSAT-9 and GSAT-15 took over some of the EDUSATs role in distance education and Swayam Prabha the DTH channels now under the PM e-Vidya initiative broadcast the educational programs nationwide.

So, this Swayam Prabha is the successor. Now, we will talk about the Swayam Prabha the door to home TV channel. This is the channel, this is the program which is providing television program, television show on the education starting from the school to higher education. Here this I have mentioned the screenshot of the Swayam Prabha website.

You can see that school education is here, then higher education is there and also the SATHEE. This SATHEE is for the competitive examination purpose. So, we will go one by one like Swayam Prabha is a DTH channel for the telecasting high quality educational programs 24X7 anytime you want you are interested you can go through and you can see the lecture or you can listen the lecture. It was launched or inaugurated in July 7<sup>th</sup> 2017, and the satellite was GSAT-15.

Now, about the Swayam Prabha- Swayam Prabha is remember this is DTH service door to home service. You can see the course content on the television as well as the website of the Swayam Prabha and it provides the new content daily for at least 4 hours, then this gets repeated for 5 more times in a day allowing the student to choose their time of the convenience. According to their convenience they see and listen the program. The channels are uplinked with the BISAG the Bhaskaracharya Institute of Space Application and Geo-Informatics, Gandhinagar, and they are operating from there and the contents provided by Swayam Prabha is taken from the NPTEL, IITs, UGC, CEC, IGNU, NCERT and NIOS.

The infrared centers maintain this web portal and DTH channels bringing quality education from leading and professors leading professors directly to your home completely free of

cost. The subscriber of FREE DISH TV or DTH services of Doordarshan can view this educational channel using the same SET TOP BOX and TV which you are having at your home without any additional investment, also you can go through the Swayam Prabha portal [www.swayamprabha.gov.in](http://www.swayamprabha.gov.in) and also you can see the archived telecast videos as well as the running live videos online videos anytime. So, students can find information on the current and the upcoming programs list in the timetable on the website.

Every class has a timetable, and they can follow it to select the time slot for listening to the program. So, some facts about Swayam Prabha that you should remember: it is governed by the Ministry of Education, Government of India, and was launched on July 9, 2017. GSAT-15 satellite provides 24x7 telecast. The modes of access are DTH TV, internet, and website. We can not only watch on TV but also access the website. The main beneficiaries are students, teachers, universities, and learners across India. Since this is satellite-based, its telecast covers India. The initiative ensures that learners, especially those without internet access, can still benefit from quality digital education using their own television.

Now, Swayam Prabha serves three categories, as mentioned in the first slide: it provides educational content for three levels of learners. The first is higher education, the second is competitive examination (SATHEE), and the third is school education. Higher education currently has 40 DTH channels, as I found on the website, which confirms there are 40 DTH channels for higher education at present. The second one is SATHEE. For competitive examinations, there are 8 DTH (door-to-home) channels at present, and the third category is school education, which has 200 DTH channels at present.

Now, the objective of Swayam Prabha is to provide free, high-quality educational content to all learners, including those residing in rural and remote areas. It enhances accessibility to education by offering DTH-based services for learners who lack internet facilities. It provides multilingual learning content by delivering courses in English, Hindi, and regional languages. The courses are available in different languages. It supports school to higher education by broadcasting course content from NCERT, UGC, AICTE, NIOS, etc.

It is bridging the digital divide and enabling inclusive education through TV and mobile access. It supports continuous learning by helping learners prepare for competitive examinations, vocational courses, and skill development programs. Its main important strong point is that you can watch the program on television as well as on mobile, laptop, or tablet anywhere at your convenient time. So, the features of this SWAYAM are

mentioned here, such as its 24x7 educational broadcast service. You can watch the program anytime with multi-subject coverage.

All kinds of subjects are covered here, starting from arts, science, commerce, and vocational courses. There is free and open access; anybody can access the free courses and content available here, with no restrictions regarding accessibility. The expert-led content is of high quality, and renowned professors from different institutions prepare the course content available in Swayam Prabha. Multilingual learning support is a very good feature for a vast group of learners. Learners from different language backgrounds have access to course content in various languages.

So, these features are elaborated here in these points, which I have already mentioned, and now we will talk about the channels and content on Swayam Prabha. The channels on Swayam Prabha provide courses related to different levels of learners. The first one is school education. It covers classes 1 to 12 subjects as per NCERT and NIOS curriculum and also helps CBSE and state board schools. From UGC and CEC channels, it covers UG and PG level courses in humanities, sciences, commerce, and arts, developed by UGC, CEC, and other central universities.

The third one is engineering and training AICTE channel. The course content whatever is available here in engineering and technology section AICTE and different IITs are developing those contents related with the engineering, computer science, electronics and mechanical studies and these are high quality course content. Then fourth one is competitive and skill-based courses. This is very famous for the learners who are preparing themselves for the competitive examinations. These preparatory courses or content are available like JEE, NEET, UPSC, GATE, NET, etc. and other competitive exams also and the learners from different vocational courses in agriculture, entrepreneurship and digital skills they can benefited by the watching this course and the content.

The fifth one is Teacher Training and Lifelong Learning. It provides the teacher training program for CBSE, SCERT and DIET faculty includes the adult education, digital literacy and soft skill development. So, the we know the advantages of the Swayam Prabha, but we have to discuss. So, the first one is ensuring inclusive and equitable education providing the equal opportunity to all the stakeholders who either economically weaker section or from the good section everyone freely utilize this digital educational content.

The it supporting the NEP 2020 national education policy, it promotes the multidisciplinary and skill-based education as per the new education policy and support the lifelong learning

and digital literacy and also the adult education. It addressing the internet connectivity issue definitely those are who are crying for the internet issues no network problem etc. every time crying for the network issue, they are having the solution in the form of DTH channels and they can use it offline also. Enhancing the teacher training and capacity building, the teachers who are interested to upskilling or professional development, they can go through the courses and the content for the teachers. It helps the educators to integrate the digital tools and new pedagogical strategies here in this DTH service. So, assisting competitive exam preparation we have also already discussed that it is the best facility which is liked by the youth they are preparing themselves for the different competitive exams.

Despite of definitely the positive side there are some challenges like limited public awareness. Government is spending so, much time on the course content preparation. placing it on the website and making it available for the TV, but the students and the teachers are unaware of the platform's availability and its facilities. Need for more regional language content. Most of the course content is in English, the regional language multiple languages content is still limited.

So, the work should be done in the field of that area also. The lack of interactive features. Definitely unlike online platforms Swayam Prabha lacks the live interaction and two way communication many times it is monotonous and the dependence on the television and DTH. It requires a TV and DTH connections which may not be available in the all-rural household that why at present government is started the website facility, but again that will be leading to the internet requirement. So, now we will visit the Swayam Prabha the website and we will go through this portal that how it works.

So, I will try to go on [Swayamprabha.gov.in](http://Swayamprabha.gov.in) I hope it will open yes, it is opening. So, the this was the screenshot you can see that it is showing a school education higher education and competitive examination. three types of contents are available in this field. We will try to fetch out this type of this content like first one is about the saying that 40 number of channels on the Swayam Prabha, but we will go for one by one. So, we will click on the channel and allocations.

So, here are 3 types which I have already mentioned: you can go one by one the higher education, the school education, and the competitive examination. Click on the higher education, and you will see that this is the list of the 40 channels. The last one is Vyas UGC. So, there are a total of 40 channels for higher education. The allocation is given here;

the website is provided, the course coordinator is listed, and all kinds of information are available here. You can go through it. Then comes the school education.

We will click it and see how many channels are there. You can see by scrolling that there are 196 showing, but I had read that 200 channels are there somewhere. I read that, which is why I explained it. Here in the list, it is showing 196; definitely, 4 more channels are there. We will fetch it out where it was written. The third one is the competitive examination, the Saathi. This Saathi also has 8 channels. You can see these channels are for different areas. or subject groups like SATHEE Engineering, SATHEE Medical, SATHEE Law, SATHEE Agriculture, SATHEE SSC, Bank, Railway, and SATHEE Common.

So, if you are interested to go through facilities on Swayam Prabha, definitely you should go through this website. Also, another feature is there the accessibility tool. This is a good feature. As a student of educational technology, you should explore it. If you have eyesight problems, increase the text, decrease the text, use grayscale, high contrast whatever is given, you can try it. Go through the reset; it will refresh again. So, I will request you all to go through this website for practical hands-on knowledge about Swayam Prabha. Now, we will conclude about EDUSAT and Swayam Prabha. EDUSAT played a pioneering role in transforming education in India.

Through satellite-based distance learning, by enabling digital classrooms, teacher training, vocational courses, and skill development programs, EDUSAT helped bridge educational inequalities between rural and urban areas, while technical challenges and funding limitations impacted its full potential. Its legacy continues in modern e-learning initiatives like Swayam Prabha. With advancements in satellite technology and internet-based learning, the vision of universal and accessible education set by EDUSAT remains alive in India, India's digital education revolution with the help of Swayam Prabha. Because it ensures that even those without internet access can continue learning. Although challenges remain, ongoing expansion and technological advancements will strengthen its role in India's digital education landscape and scenario. These are the references I will go through further.

Thank you. Keep learning.