

# **EDUCATIONAL TECHNOLOGY AND ICT**

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**Week-11**

**Lecture-53**

## **Module-53: Learning Management Systems (LMS)**

Hello dear learners, welcome to SWAYAM-NPTEL course on Educational Technology and ICT. I am your course coordinator, Dr. Sarita Anand, from the Department of Education, Vinaya Bhavana, Visva-Bharati, Santiniketan, West Bengal, India. Today, we will talk about Module 53: Learning Management Systems (LMS). This is Lecture 53, and before we begin, we will review the concepts covered. In earlier lectures, we discussed MOOCs, mookKIT, and SWAYAM. We differentiated between cMOOCs and xMOOCs, explored other types of MOOCs, elaborated on mookKIT, and examined the functioning of SWAYAM and NPTEL.

Now, we will explore Learning Management Systems (LMS). LMS, as we know, is a software application designed to manage, deliver, and track educational and training programs. It acts as a central hub where instructors can upload content, students can access learning materials, and organizations can monitor progress and performance. It has reformed education and incorporated

training by enabling the administration, documentation, tracking, and delivery of learning in a structured manner. It is widely used in schools, universities, businesses, and government organizations to facilitate both online and blended learning experiences. One of the latest advancements in distance education is the adoption of LMS. or course management systems, which enable educators to design and deliver instructional content in a structured and interactive manner. These platforms integrate a wide range of learning materials, including text-based content and multimedia elements sourced from various educational repositories.

So, the LMS provides flexible assignment options, allowing the student to complete the task individually or in the collaborative way to their convenience. And the learners can engage in a group project, support each other through peer mentoring and receive prompt constructive feedback from the instructors. By utilizing LMS platforms, educators can ensure that both on campus and remote students experience the same high-quality education. The direct model of online learning and teaching is facilitate the active participation and collaboration among the students in problem solving and knowledge production by themselves using the content provided by the teachers whether in the face-to-face classroom or online classroom like LMS. So, teachers are providing the educational content offline in the class that will be also having difficulty when the students is not coming to the school or the college.

So, this LMS is filling that gap and that the content provided at the LMS platform student can fetch out from their home. So, this is bridging the gap of those students who are not able to come in the class sometimes. These elements are helping teachers who need a set of features of developing and structuring their own online courses. So, LMS is also providing the opportunity for the teachers who are very much interested to offer their courses on any platform like LMS and this learning management systems like Moodle and Google Classroom are the most utilized LMS in our country, basically the Google Classroom is being utilized for many teachers because this is fully free, the characteristics of LMS we will go one by one that the main feature of an LMS is to centralized simplified administration and management of teaching and learning through e-learning platform, this is a kind of e-learning platform and this is a centralized system where on one platform one place teacher student administrator and administrative activities courses and course content and curriculum is available then entire process is available in a single system.

So, it has the teachers and the students to plan their learning and teaching process by working together, exchange information and knowledge and then they can go for any LMS. This platform is flexible, accessible anytime, anywhere in the world, faster than any other conventional method of teaching focusing on the students, their need of interactivity and the enhancement of the learning. So, it is a software application for administration, documentation, tracking, reporting, automation and delivery of educational courses, training programs or learning and development programs and the learner learning management system concept emerged directly from e-learning.

So, any teacher who is interested to have the documentation of whatever content they have provided to their students what assignment they have given, what kind of reply came from

the students, queries came from the student, interaction gone through so everything can be documented with the help of LMS and without that even we are doing all these things in real time in our classes, there will be no such documentation and we cannot reuse those information in future, but with the help of LMS definitely we can use it. So, if we want to highlight, talk about the highlights of the LMS. The LMS delivers and manages all type of courses and its contents including video, audio, documents in the education especially higher education we are utilizing. It includes a variety of functionality and has features such as rubrics; you can generate the rubric for the evaluation. Teacher and instructor facilitate learning and discussion boards are there. They can, students can write and teacher can answer, teacher can write the question, student can answer and the use of syllabus is there.

So, the key feature if one liner or two liner we want to say about the LMS the firstly it's a single point access for all e-learning content and student record. How many students are enrolled in your class? What kind of content being provided by the teacher? What kind of deliberation or discussions are going on in the group? And at what time you have submitted the content? your assignment or the test you have given, all these can be kept recorded in the LMS platform. Secondly, it is enabling the technology for anytime, anywhere access to learning content and administration.

We can; as a teacher, we can organize our classes anytime, anywhere sitting and also the learner can utilize this platform for studies, for queries anytime, anywhere. So, the general functions of the LMS, they are the list of functions like structure, security, registration, administration, integration, delivery, interaction, personalization, record keeping, reporting, tracking and facilitating the facility of reuse. We will start with the structure. It has a centralized and organized teaching and learning functions into one system. Security.

It provides the shield from unauthorized access to the courses. Student records and admin functions. It provides the specific login ID and password for a particular LMS and the class. So, not everyone can enter in any LMS class. Registration, it requires registration to find, select or assign the courses by the teachers and the learners.

If I want to organize any course on LMS, definitely I have to register, I have to create the class and then provide the class code or link to the students to join this LMS class. The administration, it provides a centralized management to the course creator for all kind of functions mentioned above in the list. The integration, it provides a wonderful facility of exchanging of data with the external system to facilitate the tracking of the learner

performance and the course. I will show you when I will go through the website that we not only can upload our content on the LMS for our learners, but also we can integrate the external sources in the system like we can embed the links, we can upload the YouTube links and many other facilities are there in different LMSs.

So, the delivery, it also provides an on-demand delivery of course content and experiences of teachers to the learners. Many times, students demand that ma'am please provide this content, we are preparing for NET examination, what books we should follow, this is the query, what will be the answer, we are not able to solve and this kind of interaction is going on on the LMS and we try to solve it. Teacher and students and administrator can easily communicate and interact with each other. So, personalization, it provides beautiful opportunity for the teachers for designing their own courses on LMS platform, matching the personal preferences like what is my expertise and what subject I am teaching and how students are demanding for their need. So, there is the scope of personalization on LMS.

Then the record keeping, it is also very good provision like if we are sharing any content via WhatsApp groups or mailing then fetching it out back it is very difficult. so this LMS is also providing the storage and maintenance of data about the course as well as the learners, if I have a class since 2020 or 21 I can go through the LMS and I can see that who were my students what content i have shared, what queries they have put, what kind of assignment I had given and if similar type of tasks I want to give I just have to reuse those kept recorded documents. So, the other functions are like reporting, definitely it is easily prepared and information report can be prepared for to give the administrators, the learners, the courses and other information was shared and performed on the LMS, who has submitted late, on what time and what day, with the date that those informations are available on this LMS.

Assessment: almost all kind of assessment is possible due to managing test and the collection, tracking and storing of the assessment data on the LMS platform. You can give the assignment and you can evaluate it and you can resend it the feedback. Now the tracking, we can easily track the learner's data like the activities and the discussion forums, the progress of the learning through assessment, quizzes and tests, and return grade and feedback. If suppose I have B.Ed students there is two units it means 100 students are there and I have given some assignment I can easily stress it out that from those 100 students who have not submitted the assignment because all are registered in the Google Classroom I am preferring Google Classroom So, I can fetch it out that who has not submitted, who has late submitted and whose performance is not good, I can directly give the feedback and

they can improve themselves and improve their assignment and they can resubmit it. So, the facilitating the reuse provision which I have already mentioned that combining the previous courses to deliver the new curricula or some other similar curricula, it can facilitate the provision of reuse of the content.

Now, the principles of your LMS, learning management system, it is basically working on the six major principle that is the scalability. We can enroll large number of students, personalization, teacher and the students can adopt the learning path to individual need. According to our students need, I can move ahead or maybe as per my expertise, I can move ahead. The interactivity, students are engaged, learners are engaged with the help of quizzes and social learning, they can post their queries and their thinking on the LMS.

So, data driven learning is also there using analytics to track the performance, teachers are aware that how students are performing, how they are taking the interest and the accessibility if the the students are there, it is ensuring the learning is available anytime anywhere and student can fetch it out and also the teacher can fetch it out the given information and the integration definitely this is a very good part of the LMS that we can integrate different softwares different OER and other platforms which are we find suitable for our course content we can add it in our LMS.

So, these LMS are working on these six principles and for your ease I have given it in the writing the same thing I had mentioned in the graph now the types of LMS basically there are three types. The first one is open-source software, the second one LMS is using the cloud-based computing and the third one is proprietary software. By its name you can understand that the open source softwares allow free use, modification and distribution. So, there is no matter of the subscription and asking for renew it and all and then cloud based computing. The cloud-based computing offers remote access to the software application. And the third one is proprietary. Proprietary software retains the intellectual property rights and closed resources. So, to understand these terms, we will go through this slide that the open-source software is a type of software which are having the computer software in which source code is released under a license in which the copyright holder grant users to rights to use, study and change and distribute and software to anyone or any purpose.

So, these open-source software may be developed in the collaborative public manner. Then the second one is cloud based, it is computing also called as software as a service or a SaaS software allows users to access software application that run on shared computing sources

that stores data on remote servers and which can address through the internet browsers or cloud computing software and the third one is very packed actually, this is a software also known as closed source software, it is not free, non-free computer software for which the software publishers or any other person retain intellectual property rights and usually having the copyright or patent for the source.

So, I have prepared the exhaustive list of LMS learning management system on the basis of these three types of LMSs like open-source software, cloud-based software and proprietary software. Open source softwares I kept on the top that is Moodle. The cloud based or SaaS based that is Google Classroom and the proprietary I kept the Edmodo. These lists are large list, so I am not going to elaborate these but I will talk only about these three. The Moodle, you all know that there is Moodle, Moodle Cloud, and now you can run your Moodle with the Gnomio, and another one is Google Classroom.

This Google Classroom is free to all cloud based whatever you are loading on the Google Classroom that is going to the drive of that email account from where you have generated your Google Classroom and the Edmodo the Edmodo is the proprietary somehow this is free but if you will go for the enrolling the student and it will ask you for the subscription so it is not free but I will suggest if you are not using LMS then definitely at least you should go for the google classroom because it is fully free for use, I will see the in latter stages that advantages first we will talk about the advantages of LMS for the learners educators and education organizations so for learners what are the benefits like the flexibility it allows self-paced-learning for anytime anywhere interactive learning engage students through video simulations and gamification mobile access support learning on mobile devices you can use tablet mobile laptop for the accessing these LMS courses the performance tracking, provide instant feedback and progress report to the learner so that they can know that how far they are completed the course or not.

Then, the advantages for the educators and administrators. Efficient course management simplifies content creation and distribution, and automation takes Tasks like grading, reporting, and notifications can be easily handled with the help of an LMS and data-driven decisions. It uses learning analytics to improve teaching strategies. If the course is going well and students are performing well, they can rerun the course. If the students are not performing well and are unable to answer the questions, they can modify their course based on data-driven decisions.

For the organization, there are benefits and advantages like cost-effective training, which reduces the costs associated with physical classrooms and travel. Also, scalability allows them to train a large workforce simultaneously with the help of an LMS, as well as compliance and certification. It ensures standardized training for employees and provides certification, a large level of certification for their training. So, these are the advantages for the learners, educators, and the organization.

Now, the limitations, whenever we talk about the advantages, we must also discuss the limitations. There are technical challenges, such as high initial costs if you use a premium LMS solution, which requires a significant investment. For example, you have to purchase a Moodle server, and it will cost money. So, there is the involvement of cost or monetary issues. The complexity: some LMS platforms have a steep learning curve and are complex to manage. So, many people leave those platforms due to internet dependency.

Definitely, if you want to utilize the LMS, there is requirement of stable internet connectivity for the optimal utilization and use of these LMSs. Then the second type of challenge is that user engagement challenge. Any kind of online platform, either you are going to the DIKSHA or the SWAYAM or any LMS, you will find this kind of challenges like lack of motivation is there. Self-paced learning may lead to the low engagement. People are initially they are interested, but later on they leave their interest.

So, there is the big challenge and limitation regarding the engagement issues. The limited social interaction due to the absence of face-to-face collaboration in LMS many leave the courses. And the content overload sometimes there is facility to upload the given content. So, too much information can overwhelm the learner and they get confused that what should I follow and what not. So that is also the challenge and limitation.

And now the example of few LMSs with the link. I have given here the different name of your LMS, but I have mentioned the Google Classroom on the top. Like you can see that the Moodle Cloud, Moodle with Gnomio, Campus, Canvas, Edmodo, Schoology and ClassDojo. The last two are for the schools' children and the uppers are the for higher education and you can utilize it for the schools also.

But specifically, Schoology and ClassDojo are for school children, where ClassDojo also provides opportunities for parents. So now, we will go through your Google Classroom visit. But before that, I want to mention that one of my PPTs is available on SlideShare regarding LMS. If you want to go through that, in an earlier discussion forum, someone was asking what we should study.

So, if you are studying this course content, watching the video, and going through the PDFs, that is enough for your examination. But also, I am now giving the LMS reference that you can go through for detailed study. Now, we will go to Google Classroom. I hope you remember this logo? This is the logo of Google Classroom and its motto is, *'Where teaching and learning come together.'*

Google Classroom shows the motto, 'Where teaching and learning come together.' Google Classroom helps educators create engaging learning experiences. They can personalize, manage, and measure. This is part of Google Workspace for Education. It empowers educators to enhance their impact and prepare students for the future learning. It is a free web-based learning management system developed by Google for educators, students, and institutions to streamline the process of creating, distributing, and grading assignments. It integrates seamlessly with other Google services such as Google Drive, Google Docs, Google Sheets, Slides, Gmail, and Google Meet. It makes it an efficient tool for both online and hybrid learning environments. Since its launch in 2014, Google Classroom has become one of the most widely used digital learning platforms worldwide, offering a simple yet powerful way to enhance collaborative learning and classroom management.

We want to talk about Google Classroom and how it works. It is designed to facilitate communication between teachers and students in a digital space, and it enables educators to create and manage their classes. Suppose I am teaching B.Ed. classes, M.Ed. classes, MA in Education, and PhD classes; I can have separate classes for them. Also, there are odd and even semesters. So, I can have classes for M.Ed. first semester and third semester, MA first semester and third semester, B.Ed. first semester and third semester, PhD coursework students, and like this, we can manage our classes and course content.

So, it provides this facility and aligns the collected work online. When assigning tasks or giving assignments, we can collect them online, and there is no need to take them in print version. So, to grade assignments and provide feedback, we can grade them online and give feedback from there. Many times, I write 'Good effort' and send it back. Students can know that, 'Yes, ma'am has given this kind of remark,' and if someone is a poor performer or cheating, we can also give feedback. It facilitates discussions and announcements. There is a stream section where we can go for discussions and announcements and organize materials efficiently in Google Drive. If we are using Google Classroom, definitely all the content you are uploading that is stored in the Google Drive.

So, Google Classroom is a cloud based using the users access in the form of any devices with the internet connection and simplifies the paperless classroom and experiences by allowing the teachers to distribute assignment digitally and share the content digitally and students to submit their work online. now i have shared this screenshot of my Google Classroom, that I am using in my class for my students and there is a separate email ID, I have prepared because earlier in initial stages when I was using my own email account during COVID period in 2020 it choked and Google Gmail account was crashed because the drive was failed and I have to purchase it. Then I have resolved this problem with the separate Gmail account for the LMS and I have that account in the name of saitanand.lms@gmail.com, this is providing a separate account for my students and their courses related with inside you can see that the the classes are named by the different class and the year or the batches so now we will go through the Google Classroom.

I hope it will open okay, it will take time okay asking for signing in I had sign in already yes now you can see this is my Google Classroom, if you are a teacher, you are trying to manage your classes then definitely you can go through the Google Classroom it is freely available and these are the classes and you can see that one FDP I had attended in 2023 and this is that class, but I will show you my classes of LMS this is the, ok, this is the edu ID and I will go for another email id not for this because if I want to show you I have to go for another id because I am not using this personal id.

So, I will change the email id ok. okay it is not working add another account .lms, okay, hope I remember because we use frequently, okay, I have to give it 'yes' on my phone. So, I will give yes it's me that now this is there is safety provisions, so no we do need not to worry okay, so this is my actual class which at present I am using this is the Google Classroom and you can see recently I have given one lecture so this is the demo class of that and this is for my own students at this running batch and if you will see this there is large list of the classes Google classroom so we as a teacher we can manage so I want to not only show the classes but also want to show the how you can manage the classes.

Now this is the Educational Technology and ICT class which I am taking in the B.Ed. first semester and you can see here this is the class code and by sharing this class code I can ask you to join but not this is not for you but for this is for my B.Ed. students and you can design your class so this is the class information you can hide like I want to hide the information so I can not show you the class code and the subject and you can customize your classroom from here you can see the we can select the color or we can select the design or even this photo is from Google Classroom you can change this photo by

uploading the photograph whatever you are liking, so if suppose I want to change the color pattern I can change and it will be saved then the real task is that if you want to organize the class you want to create the class then first this is the screen where there are four sections stream classwork people and grades and you if you will go to the classwork I have not given the assignment to them in this batch till now and you will see that 71 student have joined this Google classroom and they are going through the given content and these are the content which I have shared with them, may be some other class.

This is also the class of ET and ICT and you can understand that I have the interest in educational technology and ICT that is why the content are like this, but also, I have I am teaching on the research methodology also. So, you can see there are the podcast on the Podbean, which I will discuss later that these are the streams. So, if you want to see the features of this section of the Google Classroom the grades.

So, because I am not assigned, so that is why it is not showing if I will go through the previous classes where I have given assignment I do not remember where I had given the assignment but definitely for the technology classes maybe I have given some assignment I hope LMS link learning management system you can see I have shared this link to the students I hope I have given some classwork yes I have given them assignment on 2021, 40 turned in you can see , 40 turned in and 1 assigned it means one of the student have not submitted and that batch 41 or 42 students were there 31 class comments are there.

So, you can see the they are submitted roll number they have commented that who have submitted they have commented and these are the student list the teacher is Sarita Anand and you can see the grades, I have not reverted them because there are many times we do not find time, we have to submit in hard copy that's why. If you want to generate the Google Classroom what you have to do, just you have to go to home and you will find here the plus sign only you have to click on the plus sign and you will find there are two options join class and create class and just if you are a student you are having the class code, you have to join the class; otherwise create class, now just right now I will create class maybe not clicked, maybe opening because this is not my own system, I am not able to understand that it is opening or not, yes, now it is opening. So little bit slow we have to agree, now create class so what we have to write so I can write that class name is SWAYAM-NPTEL class ET and ICT class okay! and section is maybe subject is education we definitely we are from the education many other options are there so you can write the class name and create just you have to write the name and create it is taking time to create now this is our class now this class code is visible to you all. I hope when you are watching this lecture

you can note it down and you can join this class I am offering this Google Classroom to you all that this is your ET and ICT SWAYAM class this is the class code in front of you and you can display it. I have displayed already in large size you can join this online class so that I can understand that you are having the interest to listen and watch the video and you are following my course very well when you will join this google classroom, okay, now I am closing it so this was all about the LMS and i have shown you the functioning of this google classroom when you will join it your name will be reflecting here my name is already there because I have created but now if you will join then your name will be reflected here and I will be knowing that how many of my students have joined or the participants of this course have joined here and maybe in future I can give you some class work or some content sharing will be going on after completion of this course also, ok. So, this is for now, now we will go for our conclusion.

Now we can conclude that LMS has transformed education and professional training offering scalable flexibility and cost-effective solution for the learners and organizations worldwide while technical and engagement challenges remains continuous advancement in AI and mobile learning will further enhance the LMS functionalities with the ongoing digital revolution, technological changes, updates, use of different LMSs by the educators will be increased especially Google Classroom. I always prefer Google Classroom because it is the easiest LMS to handle as the proper platform to share their course content, to manage, deliver and track the educational growth and connections between the student and teacher anytime, anywhere with the safe access to the online platforms.

So, I have given few references also for your further reading. I hope you will go through it. Keep learning and please connect on the Google Classroom. I will see that how many of the participants have joined the Google Classroom. Thank you.